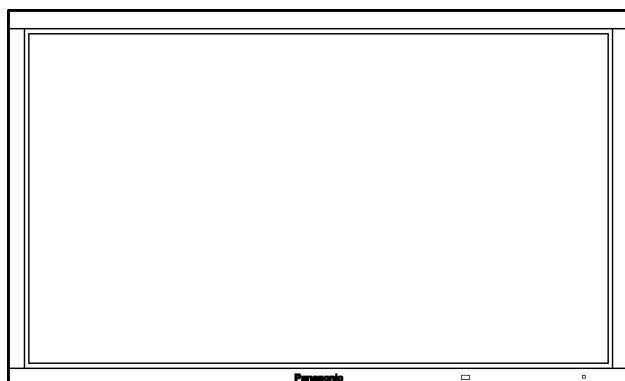


Service Manual

High Definition Plasma Display



TH-103PF9UK

TH-103PF9EK

GPF9D Chassis

Specifications

Power Source (UK)	240 V AC, 50 / 60Hz
Power Source (EK)	220 V - 240 V AC, 50 / 60Hz
Power Consumption	
Power on (UK)	1,550 W
Power on (EK)	1,500 W
Stand-by condition	Save OFF 1.5 W, Save ON 1.3 W
Power off condition	0.5 W
Plasma Display panel	Drive method: AC type 103-inch, 16:9 aspect ratio
Screen size	89.5" (2,269 mm) (W) × 50.5" (1,277 mm) (H) × 103" (2,604 mm) (diagonal)
(No. of pixels)	2,073,600 (1,920 (W) × 1,080 (H)) [5,760 × 1,080 dots]
Operating condition	
Temperature	32 °F - 104 °F (0 °C - 40 °C)
Humidity	20 % - 80 %
Applicable signals	
Color System	NTSC, PAL, PAL60, SECAM, Modified NTSC
Scanning format	525 (480) / 60i • 60p, 625 (575) / 50i • 50p, 750 (720) / 60p • 50p, 1125 (1080) / 60i • 60p • 50i • 50p • 24p • 25p • 30p • 24sF SMPTE274M, 1250 (1080) / 50i
PC signals	VGA, SVGA, XGA, SXGA, UXGA (compressed) Horizontal scanning frequency 15 - 110 kHz Vertical scanning frequency 48 - 120 Hz
Connection terminals	
DVI-D	Video Input DVI-D 24 Pin × 1 compliance with DVI Revision 1.0
	Audio Input Stereo mini jack (M3) × 1 0.5Vrms
	Content Protection Compatible with HDCP 1.1
COMPONENT / RGB	Y / G (BNC) Y or G with / sync 1.0 Vp-p (75-ohm)

PC	P _B / B (BNC), P _R / R (BNC)	0.7 Vp-p (75-ohm)
	AUDIO IN (RCA PIN JACK × 2)	0.5 Vrms
	(HIGH-DENSITY Mini D-SUB 15PIN)	Y or G with / sync 1.0 Vp-p (75-ohm)
		Y or G without / sync 0.7 Vp-p (75-ohm)
SERIAL AUDIO OUT		B / P _B / C _B :0.7 Vp-p (75-ohm)
		R / P _R / C _R :0.7 Vp-p (75-ohm)
		HD / VD:1.0 - 5.0 Vp-p (high impedance)
	VBS (use HD port)	with / picture 1.0 Vp-p (high impedance)
		without / picture 0.3 Vp-p (high impedance)
	AUDIO IN (M3 JACK)	0.5 Vrms
	EXTERNAL CONTROL TERMINAL (D-SUB 9PIN)	RS-232C COMPATIBLE
	RCA PIN JACK × 2 (L / R)	
	OUTPUT LEVEL : VARIABLE (- ∞ - 0 dB)	
	[INPUT 1KHz / 0dB, 10Kohm Load]	

Accessories Supplied

Remote Control Transmitter (UK)	EUR7636070R
Remote Control Transmitter (EK)	EUR7636090R
Batteries (UK)	2 × AA Size
Batteries (EK)	2 × R6 Size
Fixing bands	(TMME203 or TMME187) × 2

Dimensions (W × H × D) 95.0" (2,414 mm) × 56.0" (1,421 mm) × 5.0" (129 mm) (141 mm when including protruding portion of slots)

Mass (weight)

main unit only (UK)	approx. 485.0 lbs
main unit only (EK)	approx. 220.0 kg net

Notes:

- Design and specifications are subject to change without notice. Mass and dimensions shown are approximate.
- This equipment complies with the EMC standards listed below. EN55022, EN55024, EN61000-3-2, EN61000-3-3. (TH-103PF9EK)

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 Applicable signals

Applicable input signals for Component / RGB, Mini D-sub 15P (Component / RGB), DVI-D (* Mark)

	Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)	Component / RGB / Mini D-sub 15P (Component / RGB)	DVI-D
1	525 (480) / 60i	15.73	59.94	*	
2	525 (480) / 60p	31.47	59.94	* *1	*
3	625 (575) / 50i	15.63	50.00	*	
4	625 (575) / 50p	31.25	50.00	*	
5	626 (576) / 50p	31.25	50.00		*
6	750 (720) / 60p	45.00	60.00	*	*
7	750 (720) / 50p	37.50	50.00	*	*
8	1,125 (1,080) / 60p	67.50	60.00	*	*
9	1,125 (1,080) / 60i	33.75	60.00	*	*
10	1,125 (1,080) / 50p	56.26	50.00	*	*
11	1,125 (1,080) / 50i	28.13	50.00	*	*
12	1,125 (1,080) / 24sF	27.00	47.92	*	
13	1,125 (1,080) / 30p	33.75	30.00	*	
14	1,125 (1,080) / 25p	28.13	25.00	*	
15	1,125 (1,080) / 24p	27.00	24.00	*	
16	1,250 (1,080) / 50i	31.25	50.00	*	
17	640 × 400 @70 Hz	31.46	70.07	*	
18	640 × 480 @60 Hz	31.47	59.94	* *2	*
19	640 × 480 @72 Hz	37.86	72.81	*	
20	640 × 480 @75 Hz	37.50	75.00	*	
21	640 × 480 @85 Hz	43.27	85.01	*	
22	800 × 600 @56 Hz	35.16	56.25	*	
23	800 × 600 @60 Hz	37.88	60.32	*	*
24	800 × 600 @72 Hz	48.08	72.19	*	
25	800 × 600 @75 Hz	46.88	75.00	*	
26	800 × 600 @85 Hz	53.67	85.06	*	
27	852 × 480 @60 Hz	31.47	59.94	* *2	*
28	1,024 × 768 @50 Hz	39.55	50.00		*
29	1,024 × 768 @60 Hz	48.36	60.00	*	*
30	1,024 × 768 @70 Hz	56.48	70.07	*	
31	1,024 × 768 @75 Hz	60.02	75.03	*	
32	1,024 × 768 @85 Hz	68.68	85.00	*	
33	1,066 × 600 @60 Hz	37.88	60.32	*	*
34	1,152 × 864 @60 Hz	53.70	60.00		*
35	1,152 × 864 @75 Hz	67.50	75.00	*	
36	1,280 × 960 @60 Hz	60.00	60.00	*	
37	1,280 × 960 @85 Hz	85.94	85.00	*	
38	1,280 × 1,024 @60 Hz	63.98	60.02	*	*
39	1,280 × 1,024 @75 Hz	79.98	75.03	*	
40	1,280 × 1,024 @85 Hz	91.15	85.02	*	
41	1,366 × 768 @50 Hz	39.55	50.00		*
42	1,366 × 768 @60 Hz	48.36	60.00	*	*
43	1,400 × 1,050 @60 Hz	65.22	60.00		*
44	1,600 × 1,200 @60 Hz	75.00	60.00	*	*
45	1,600 × 1,200 @65 Hz	81.25	65.00	*	
46	1,920 × 1,200 @60 Hz	74.04	59.95		*
47	Macintosh13" (640 × 480)	35.00	66.67	*	
48	Macintosh16" (832 × 624)	49.72	74.54	*	
49	Macintosh21" (1,152 × 870)	68.68	75.06	*	

*1: When selected the RGB format and 525p signal input to the Mini D-sub 15P terminal, it is recognized as VGA 60Hz signal.

*2: When inputted VGA 60Hz format signal from the other than Mini D-sub 15P terminal, it is recognized as 525p signal.

Note: Signals without above specification may not be displayed properly.

2 Safety Precautions

2.1. General Guidelines

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

2.1.1. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1\text{M}\Omega$ and $5.2\text{M}\Omega$.

When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

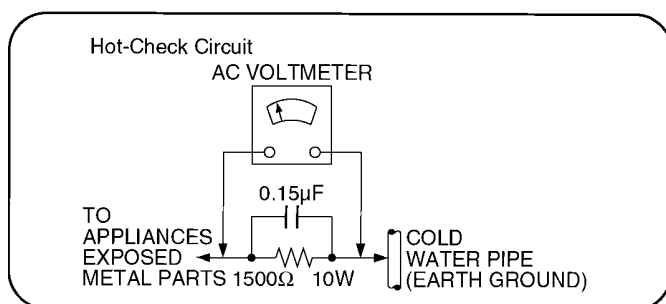


Figure 1

2.1.2. Leakage Current Hot Check (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5\text{k}\Omega$, 10 watts resistor, in parallel with a $0.15\mu\text{F}$ capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms / volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1 / 2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

3 Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder Remove device. Some solder Remove devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

4 About lead free solder (PbF)

Note: Lead is listed as (Pb) in the periodic table of elements.

In the information below, Pb will refer to Lead solder, and PbF will refer to Lead Free Solder.

The Lead Free Solder used in our manufacturing process and discussed below is (Sn+Ag+Cu).

That is Tin (Sn), Silver (Ag) and Copper (Cu) although other types are available.

This model uses Pb Free solder in it's manufacture due to environmental conservation issues. For service and repair work, we'd suggest the use of Pb free solder as well, although Pb solder may be used.

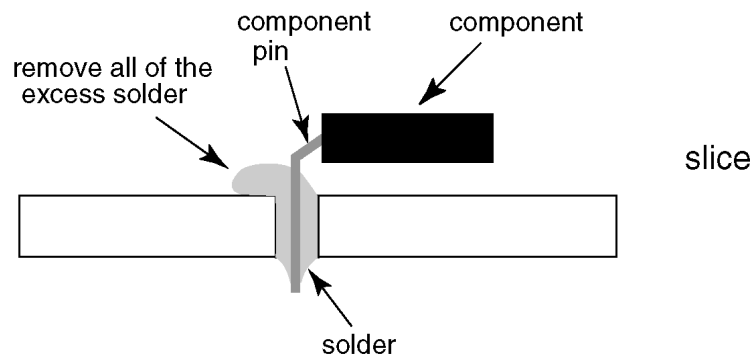
PCBs manufactured using lead free solder will have the PbF within a leaf Symbol  stamped on the back of PCB.

Caution

- Pb free solder has a higher melting point than standard solder. Typically the melting point is 50 ~ 70 °F (30~40 °C) higher. Please use a high temperature soldering iron and set it to 700 ± 20 °F (370 ± 10 °C).
- Pb free solder will tend to splash when heated too high (about 1100 °F or 600 °C).

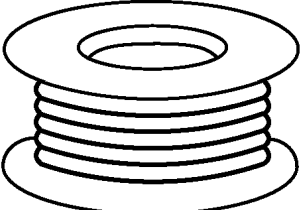
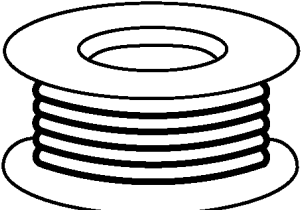
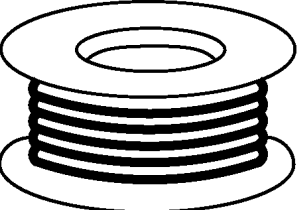
If you must use Pb solder, please completely remove all of the Pb free solder on the pins or solder area before applying Pb solder. If this is not practical, be sure to heat the Pb free solder until it melts, before applying Pb solder.

- After applying PbF solder to double layered boards, please check the component side for excess solder which may flow onto the opposite side. (see figure below)



Suggested Pb free solder

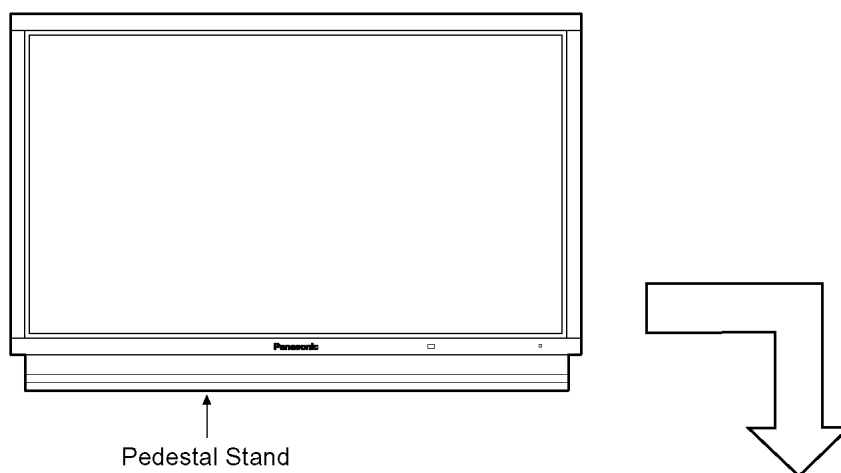
There are several kinds of Pb free solder available for purchase. This product uses Sn+Ag+Cu (tin, silver, copper) solder. However, Sn+Cu (tin, copper), Sn+Zn+Bi (tin, zinc, bismuth) solder can also be used.

0.3mm X 100g	0.6mm X 100g	1.0mm X 100g
		

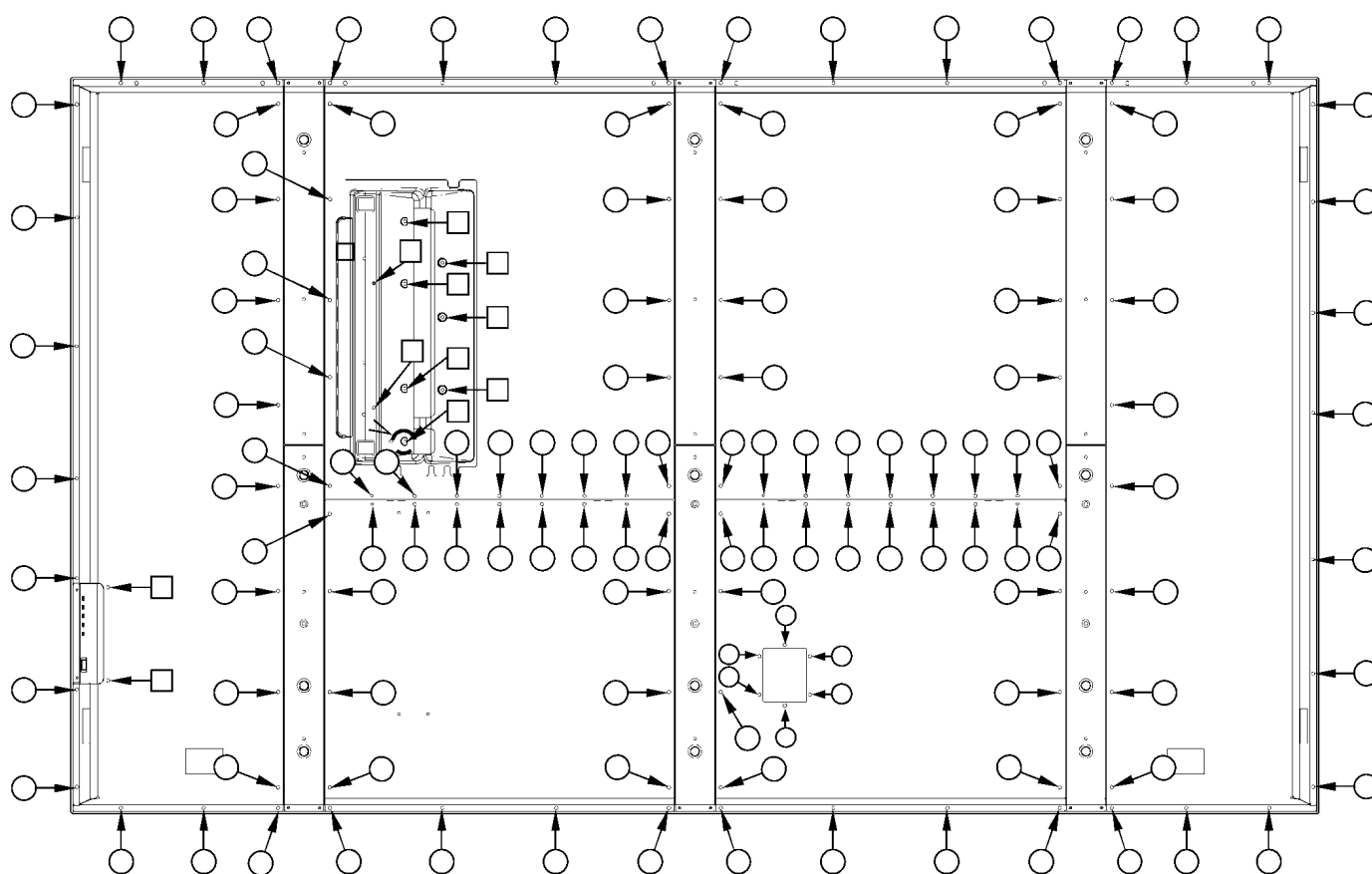
5 Service Hint

[How to set the plasma unit for servicing]

Place the plasma unit on the pedestal stand.
(Optional Accesory)

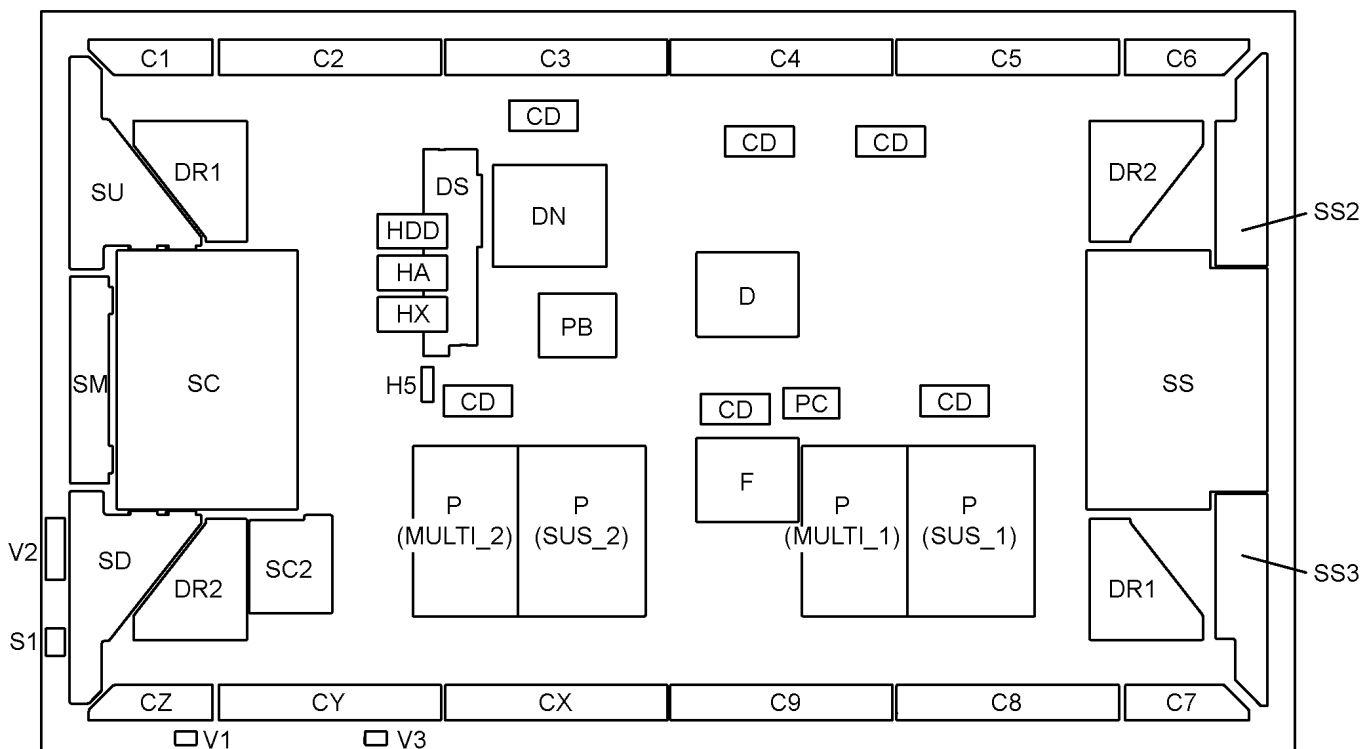


Remove the Rear Cover.



Remove : 128 screws (O) XYN4+F10FJK
11 screws (□) THEL0429

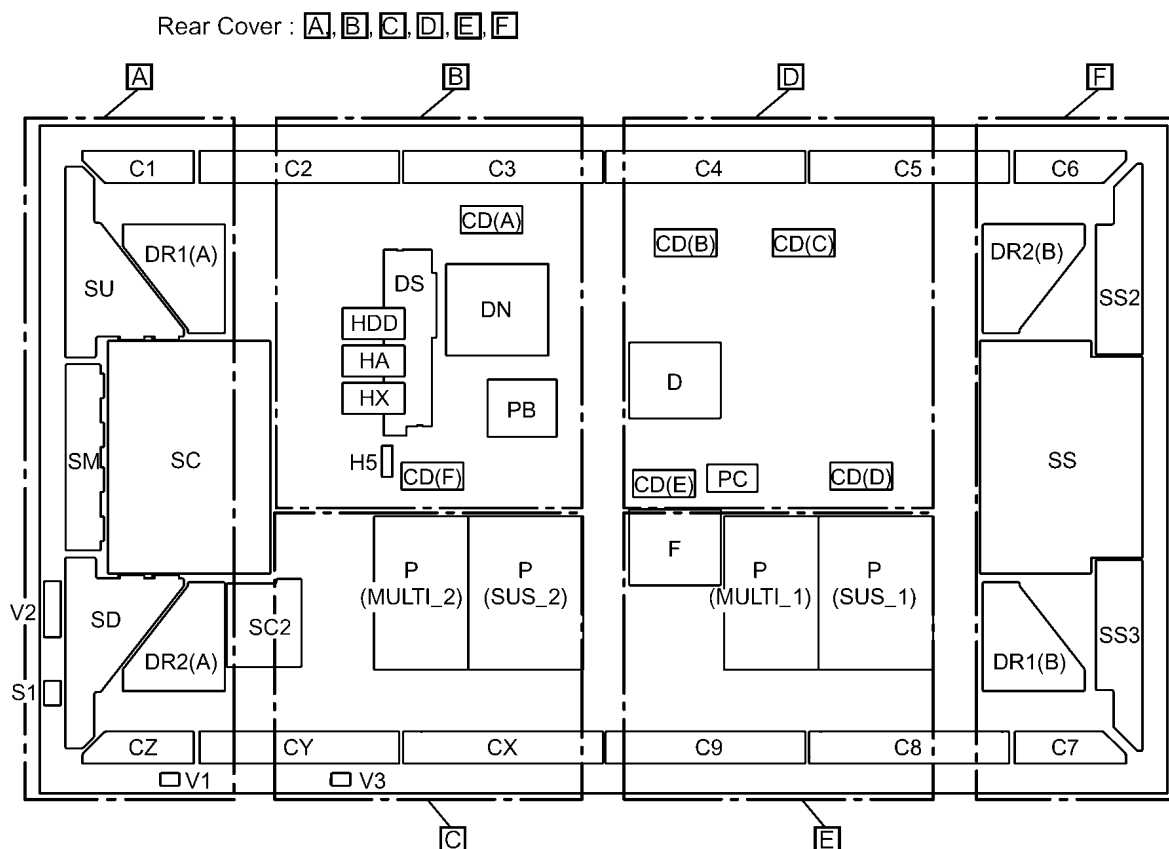
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Board Name	Function	Board Name	Function
D	Digital Signal Processor, Format Converter, Plasma AI Processor Sub-Field Processor	CX	Data Drive (X)
		CY	Data Drive (Y)
		CZ	Data Drive (Z)
		H5	Audio Out
DS	Slot Interface (Audio / Video / Sync Input Switch), SYNC Processor, Audio Processor, Speaker Out Amplifier, DC-DC Converter	S1	Power Switch
		SS2	Sustain Out (Upper)
		SS3	Sustain Out (Lower)
		V1	LED_G, R
SS	Sustain Drive	V2	Key Scan
SC	Scan Drive	V3	Remocon Receiver
SC2	DC-DC Converter For Scan Drive	PB	Fan Control
SU	Scan Out (Upper)	P(SUS_1/2)	Power Supply
SM	Scan Out (Middle)	P(MULTI_1/2)	Power Supply
SD	Scan Out (Lower)	F	Line Filter
C1	Data Drive (1)	PC	Power Control
C2	Data Drive (2)	HX	PC / RS-232C
C3	Data Drive (3)	HA	BNC Component Video
C4	Data Drive (4)	DN	Digital Signal Processor, Micon
C5	Data Drive (5)	HDD	DVI-D Terminal
C6	Data Drive (6)	CD	C-Board / D-Board Connection
C7	Data Drive (7)	DR1	Energy Data Recovery
C8	Data Drive (8)	DR2	Energy Data Recovery
C9	Data Drive (9)		

6 Disassembly

6.1. Rear Cover and Board

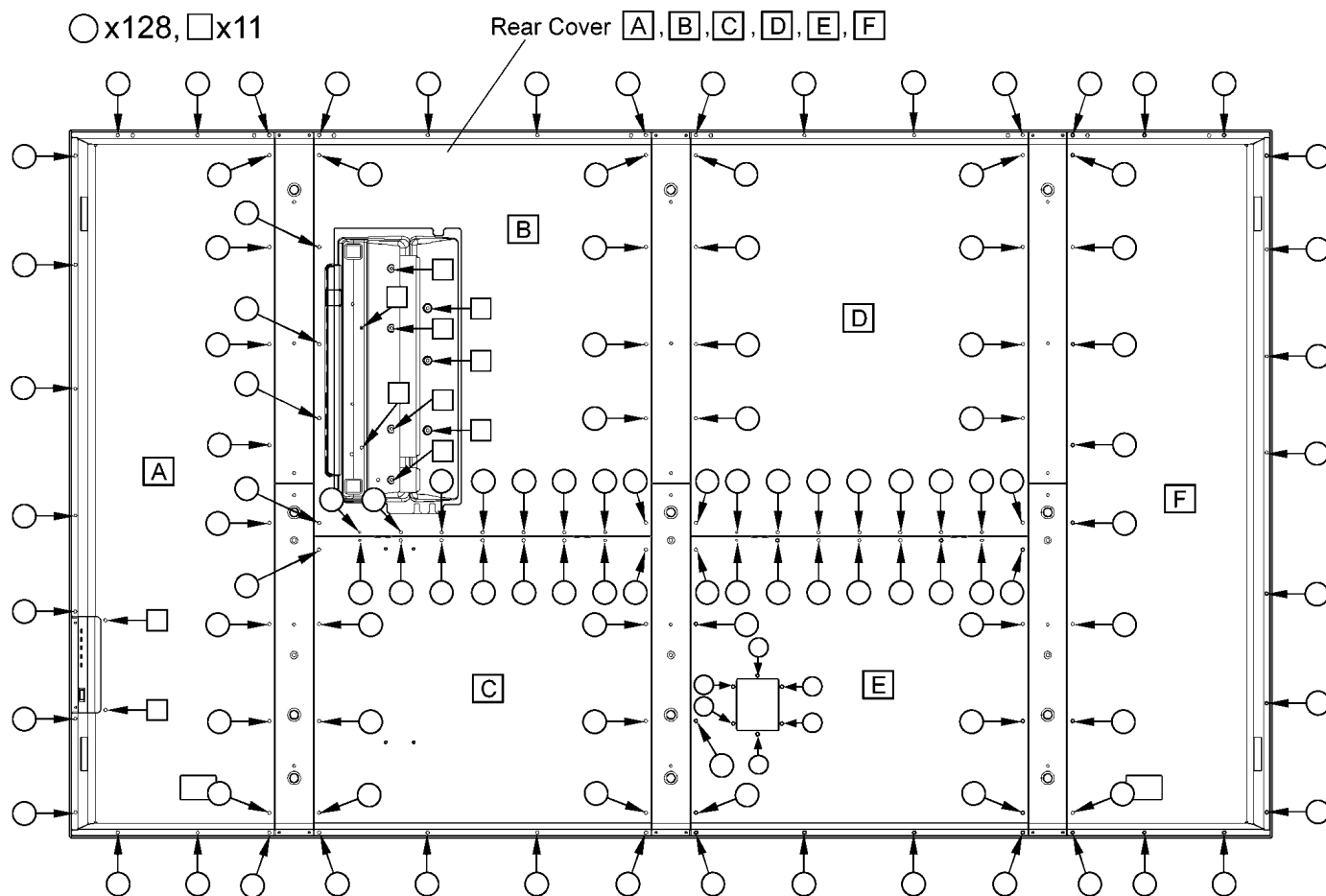


Rear Cover required to remove for each board exchange.

Board Name	Rear Cover
D-Board	D
DS-Board	B
SS-Board	F
SC-Board	A , B , C
SC2-Board	A , C
SU-Board	A
SM-Board	A
SD-Board	A
C1-Board	A
C2-Board	A , B
C3-Board	B , D
C4-Board	B , D
C5-Board	D , F
C6-Board	F
C7-Board	F
C8-Board	E , F
C9-Board	C , E
CX-Board	C , E
CY-Board	A , C
CZ-Board	A
H5-Board	B
S1-Board	A
SS2-Board	F
SS3-Board	F
V1-Board	A , B , C , D , E , F
V2-Board	A
V3-Board	A , B , C , D , E , F
PB-Board	B
P-Board (MULTI_1)	E
P-Board (SUS_1)	E

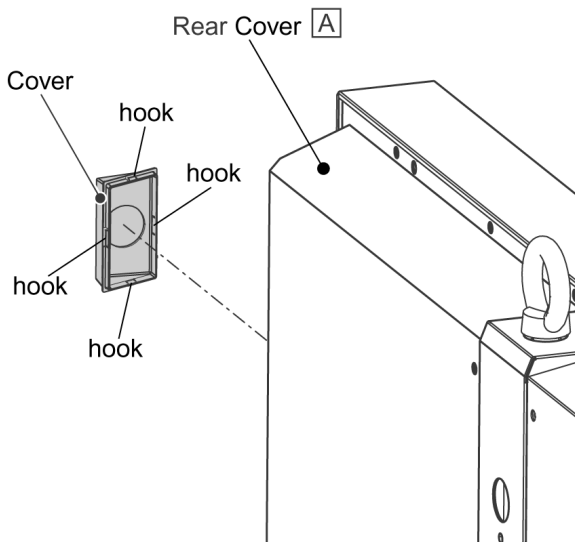
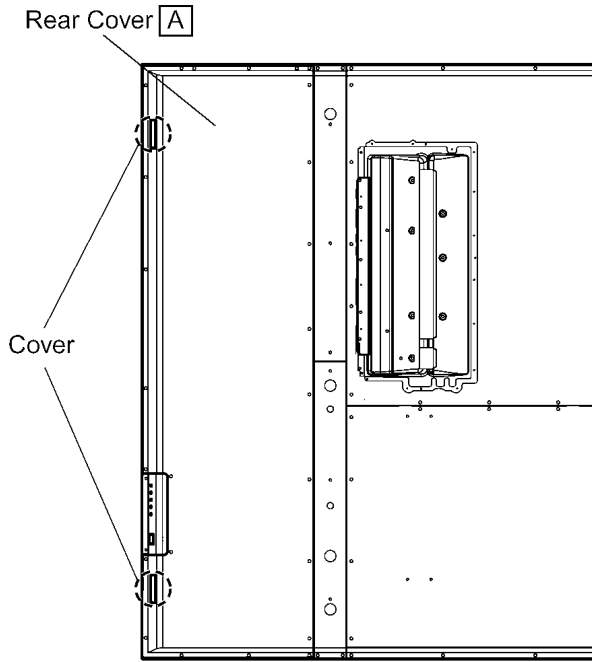
Board Name	Rear Cover
P-Board (MULTI_2)	C
P-Board (SUS_2)	C
F-Board	E
PC-Board	D
HX-Board	B
HA-Board	B
DN-Board	B
HDD-Board	B
CD-Board (A)	B
CD-Board (B)	D
CD-Board (C)	D
CD-Board (D)	D
CD-Board (E)	D
CD-Board (F)	B
DR1-Board (A)	A
DR1-Board (B)	F
DR2-Board (A)	A
DR2-Board (B)	F

6.2. Location of Rear Cover screws



6.2.1. Removal of Rear Cover (A)

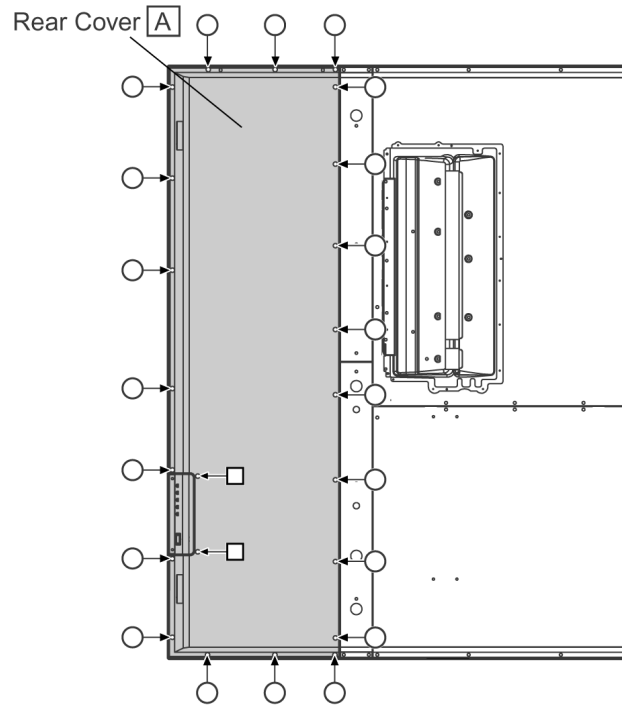
Remove the hooks and then remove 2 Covers.



(Note)

Be careful not to break the hooks.

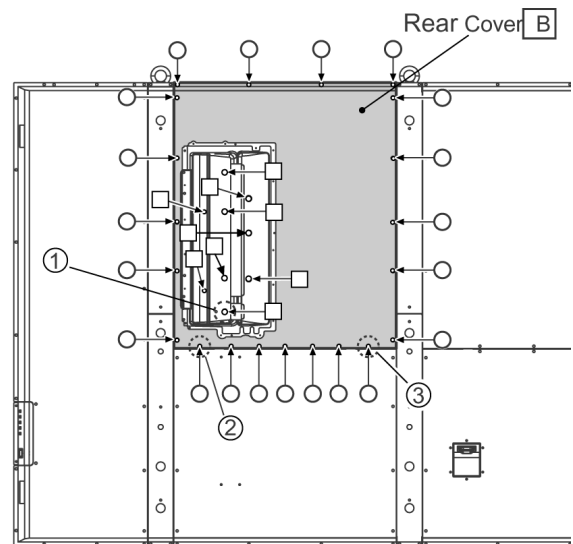
1. Remove screws (×21 ○, ×2 □) and then remove the Rear Cover (A).



6.2.2. Removal of Rear Cover (B)

1. Remove screws (×21 ○, ×9 □) and then remove the Rear Cover (B).

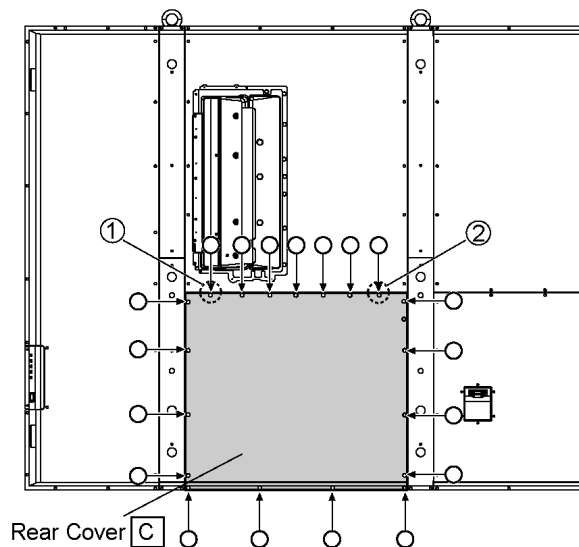
Tighten screw first in order of ①, ② and ③ when mounting the Rear cover B .



6.2.3. Removal of Rear Cover (**C**)

1. Remove screws (×19 ) and then remove the Rear Cover (**C**).

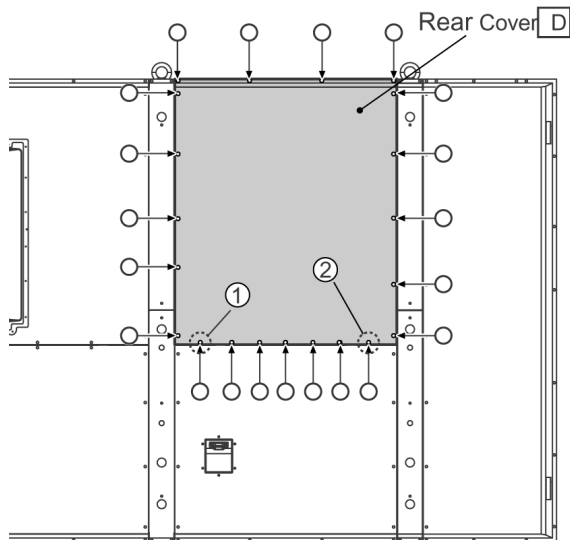
Tighten the screw first in order of ① and ② when mounting the Rear Cover **C** .



6.2.4. Removal of Rear Cover (**D**)

1. Remove screws (×21 ) and then remove the Rear Cover (**D**).

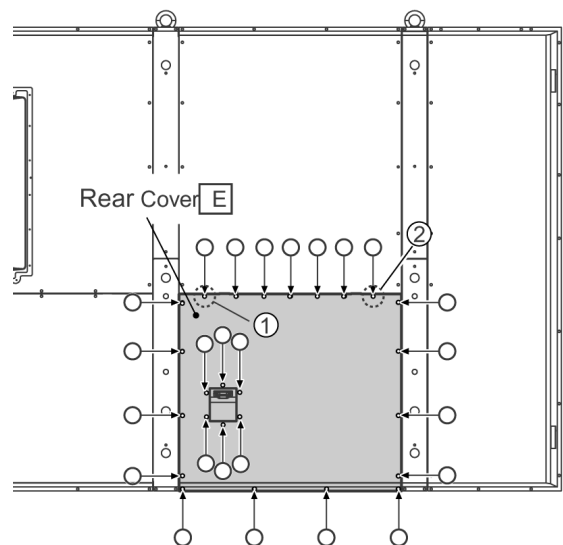
Tighten screw first in order of ① and ② when mounting the Rear cover **D** .



6.2.5. Removal of Rear Cover (**E**)

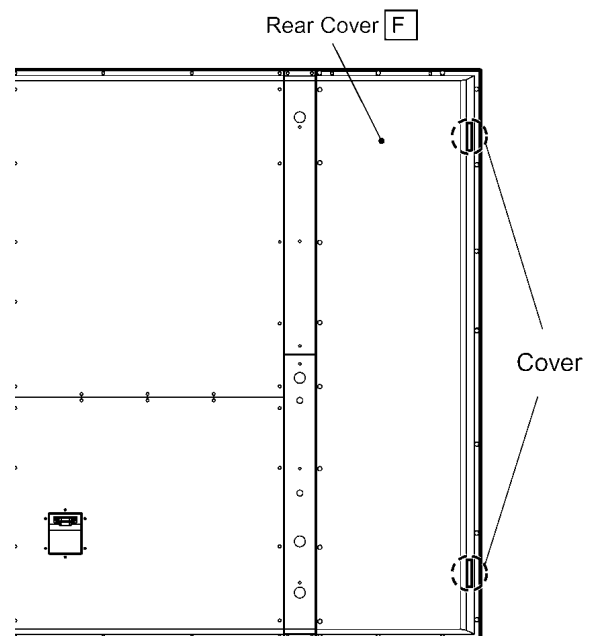
1. Remove screws (×25 ) and then remove the Rear Cover (**E**).

Tighten screw first in order of ① and ② when mounting the Rear cover **E** .



6.2.6. Removal of Rear Cover (**F**)

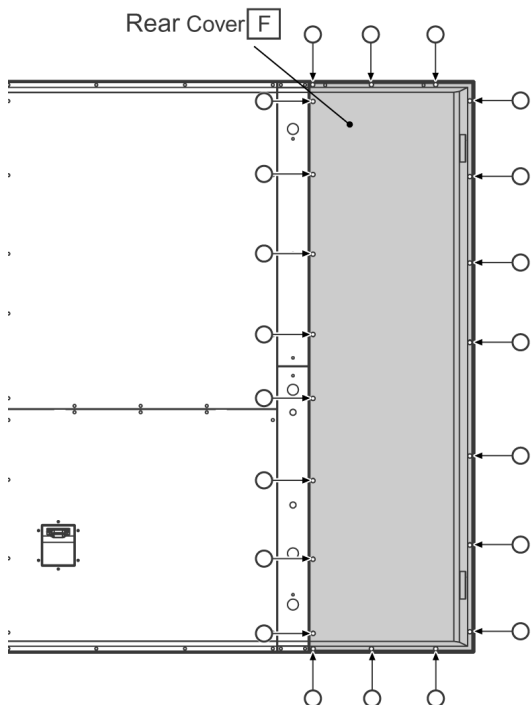
Remove hooks and then remove 2 Covers.



(Note)

Be careful not to break the hooks.

1. Remove screws (×21 ) and then remove the Rear Cover (**F**).



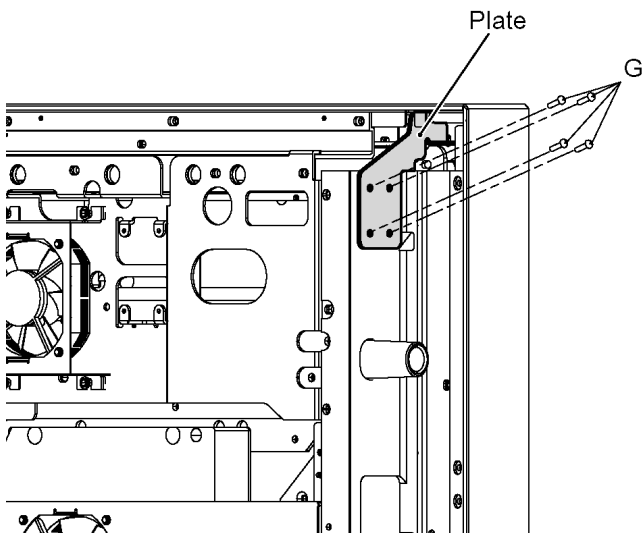
6.3. Removal of Side Angle (L), (R)

1. Remove Side Angle (L), (R) beforehand when remove the following Boards.

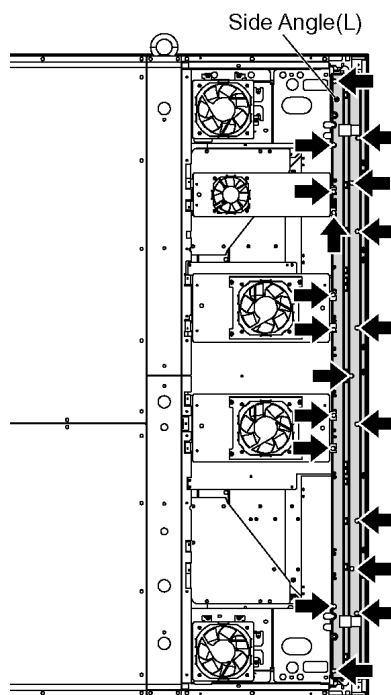
Board name	Side Angle
SU-Board	Side Angle (R)
SM-Board	Side Angle (R)
SD-Board	Side Angle (R)
SC-Board	Side Angle (R)
C1-Board	Side Angle (R)
CZ-Board	Side Angle (R)
SS2-Board	Side Angle (L)
SS3-Board	Side Angle (L)
SS-Board	Side Angle (L)
C6-Board	Side Angle (L)
C7-Board	Side Angle (L)

6.3.1. Removal of Side Angle (L)

1. Remove 4 screws (G) of the Plate.

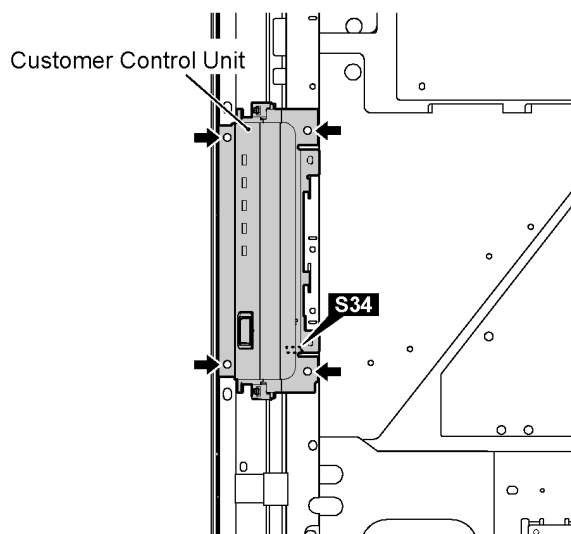


2. Remove 19 screws and then remove the Side Angle (L).

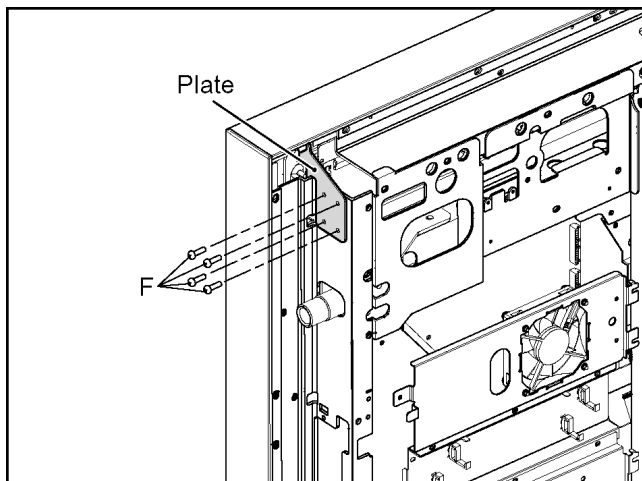


6.3.2. Removal of Side Angle (R)

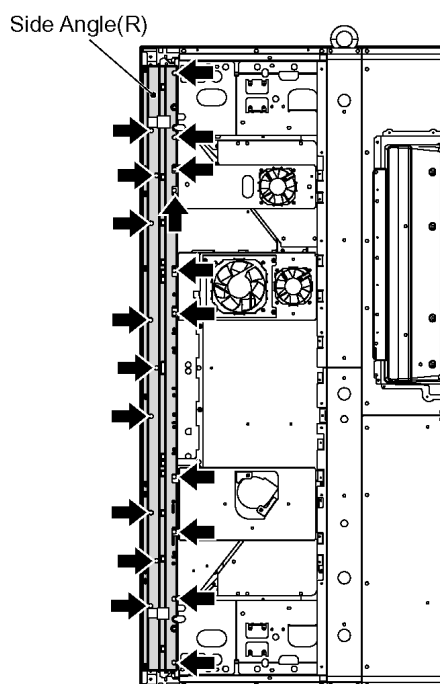
1. Remove 4 screws and then remove the Customer Control Unit.
2. Disconnect a connector (S34).



3. Remove 4 screws (F) of the Plate.

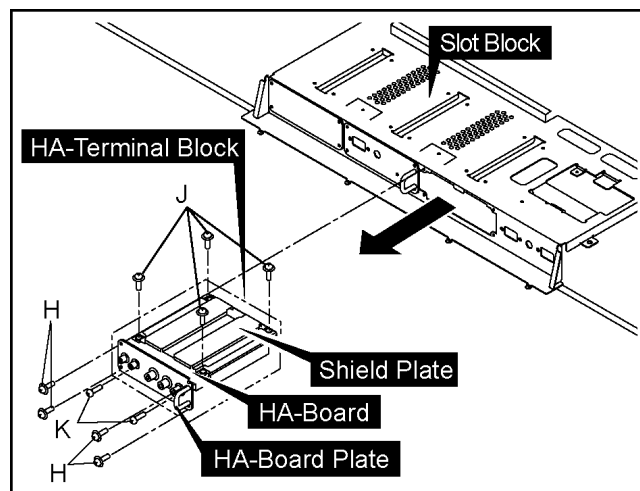


4. Remove 19 screws and then remove the Side Angle (R).



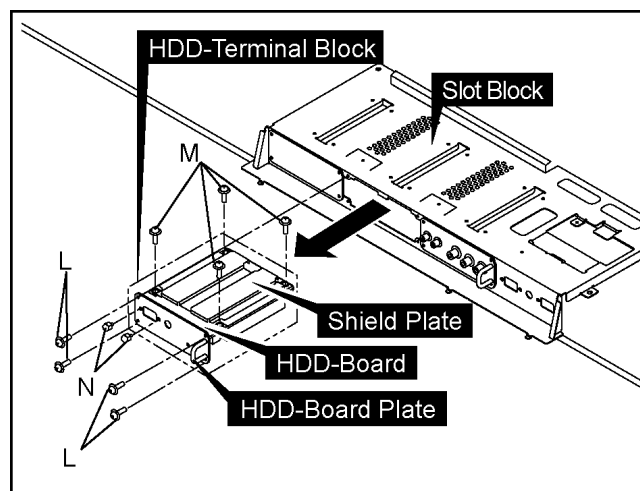
6.4. Removal of HA-Board

1. Remove 4 screws (H) and then pull HA-Terminal Block out to forward.
2. Remove 4 screws (J) and remove Shield Plate.
3. Remove 2 screws (K) and then remove HA-Board.

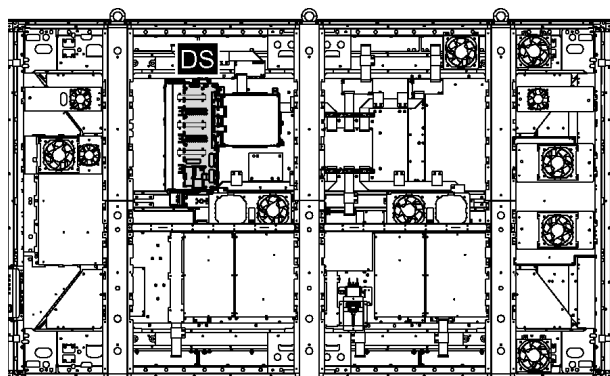


6.5. Removal of HDD-Board

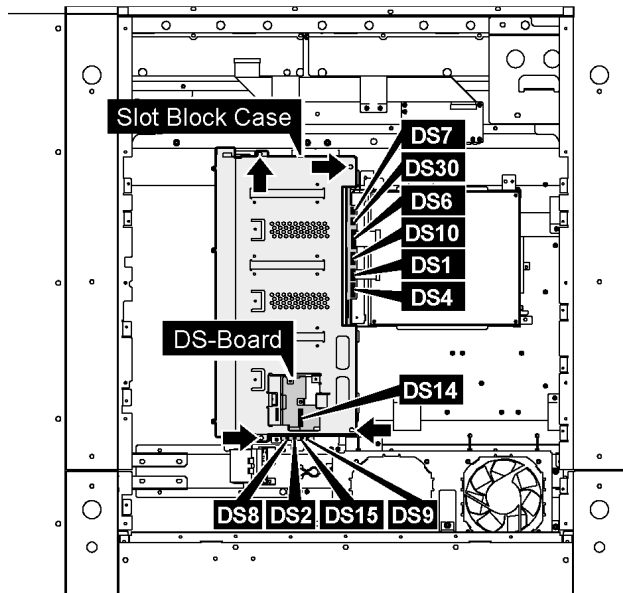
1. Remove 4 screws (L) and then pull HDD-Terminal Block out to forward.
2. Remove 4 screws (M) and remove Shield Plate.
3. Remove 2 Hexagonal-Head screws (N) and then remove HDD-Board.



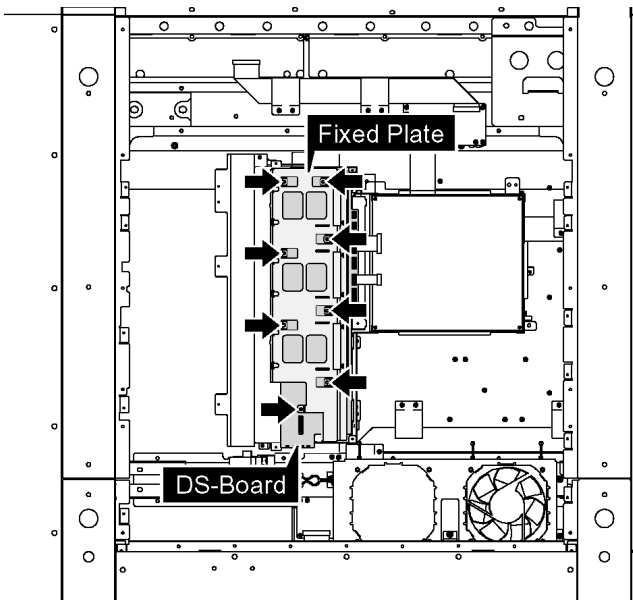
6.6. Removal of DS-Board



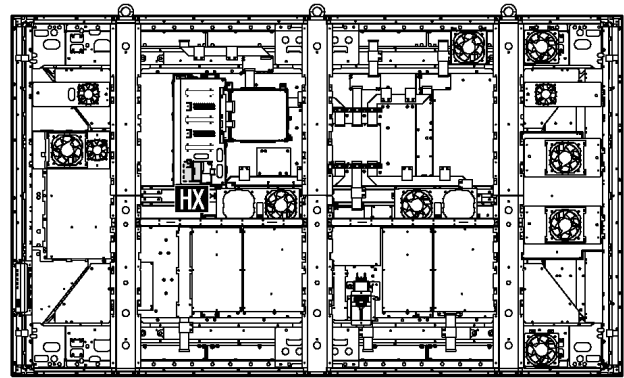
1. Disconnect the connectors (DS1, DS2, DS4, DS6, DS7, DS8, DS9, DS10, DS14, DS15, DS30).
2. Remove 4 screws and then remove the Slot Block Case.



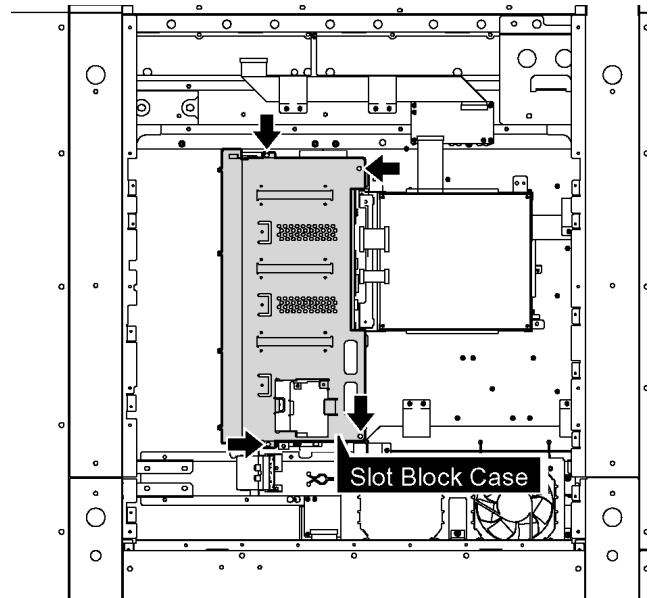
3. Remove 8 screws and then remove DS-Board.



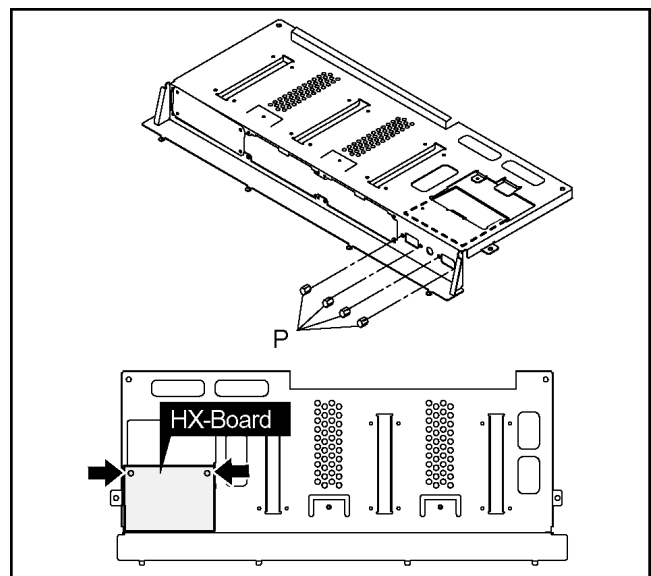
6.7. Removal of HX-Board



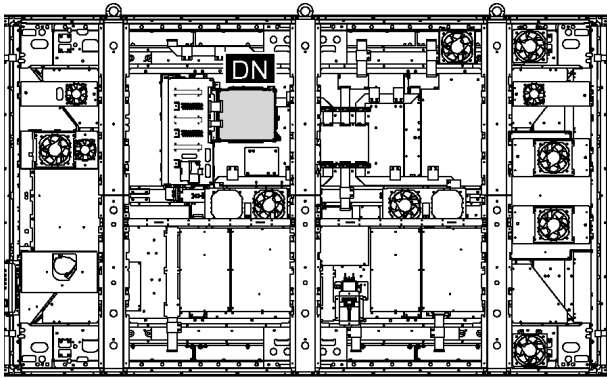
1. Remove the HA Terminal Block and the HDD Terminal Block.
(Refer to Removal of HA-Board and HDD-Board)
2. Remove 4 screws and then remove the Slot Block Case.
(Refer to Removal of DS-Board)



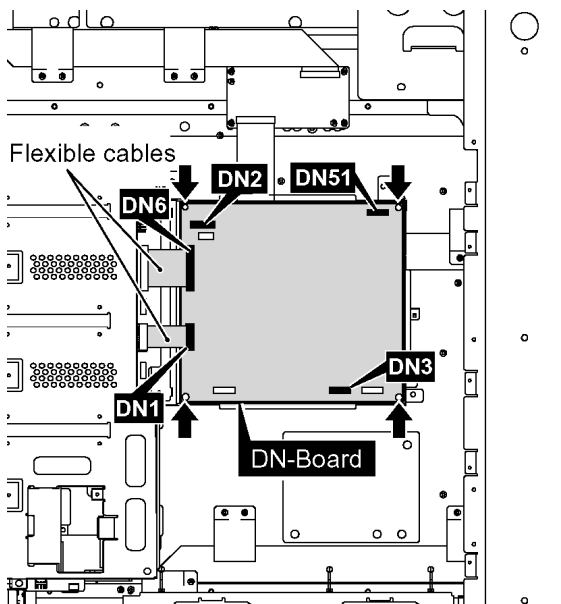
3. Remove 4 Hexagonal-Head screws (P) and 2 screws on HX-Board, and then remove HX-Board.



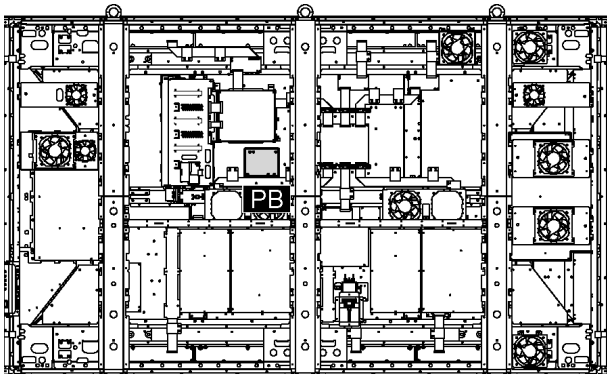
6.8. Removal of DN-Board



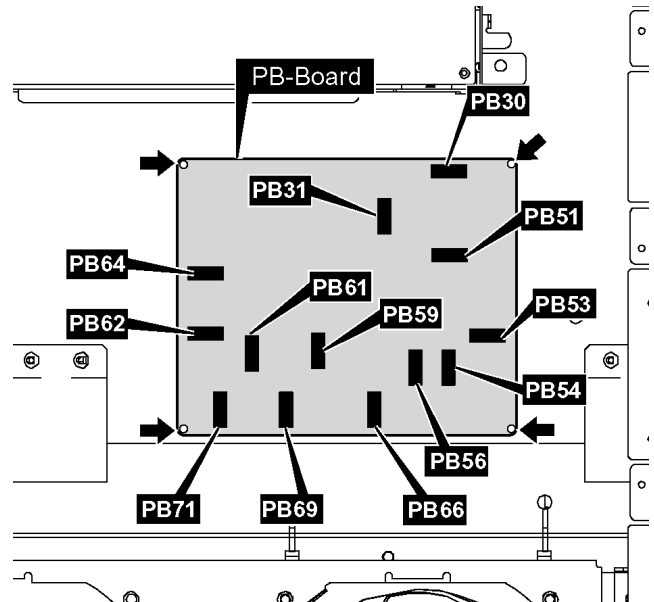
1. Remove the flexible cables from the connectors (DN1, DN6).
2. Disconnect the connectors (DN2, DN3, DN51).
3. Remove 4 screws and then remove DN-Board.



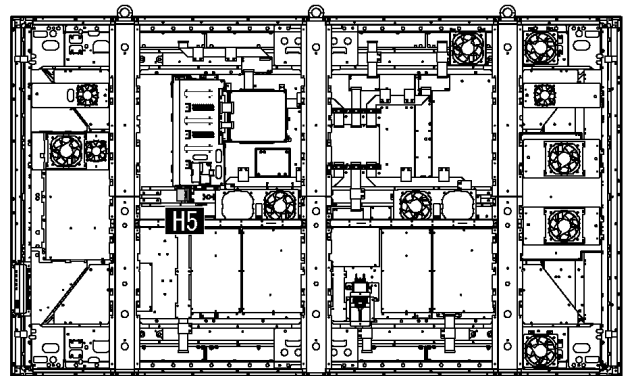
6.9. Removal of PB-Board



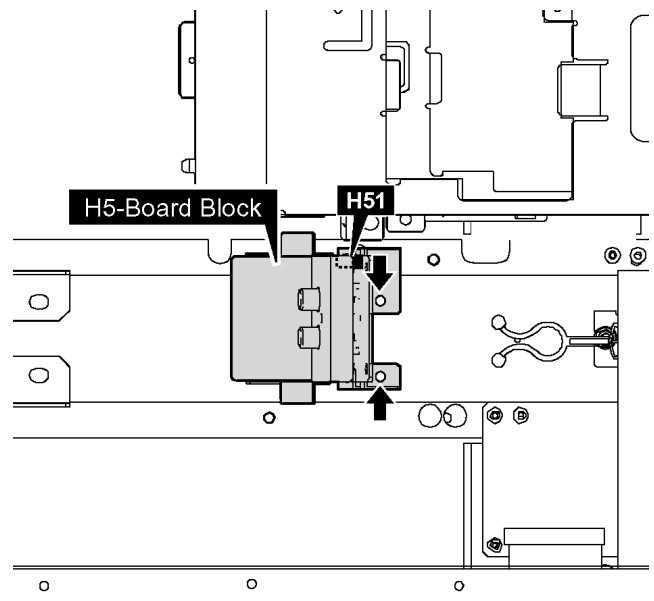
1. Disconnect the connectors (PB30, PB31, PB51, PB53, PB54, PB56, PB59, PB61, PB62, PB64, PB66, PB69, PB71).
2. Remove 4 screws and then remove PB-Board.



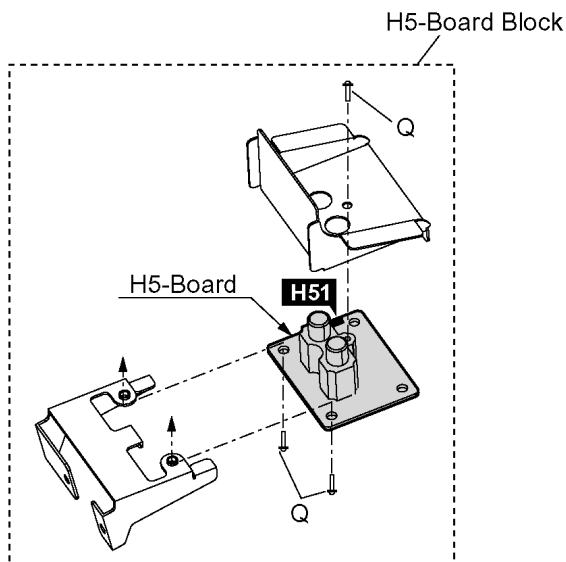
6.10. Removal of H5-Board



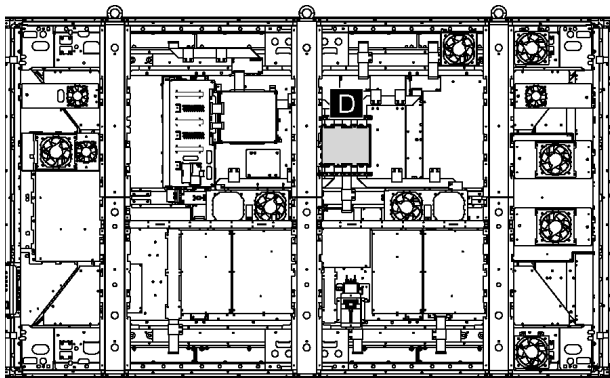
1. Disconnect a connector (H51).
2. Remove 2 screws and then remove H5-Board Block.



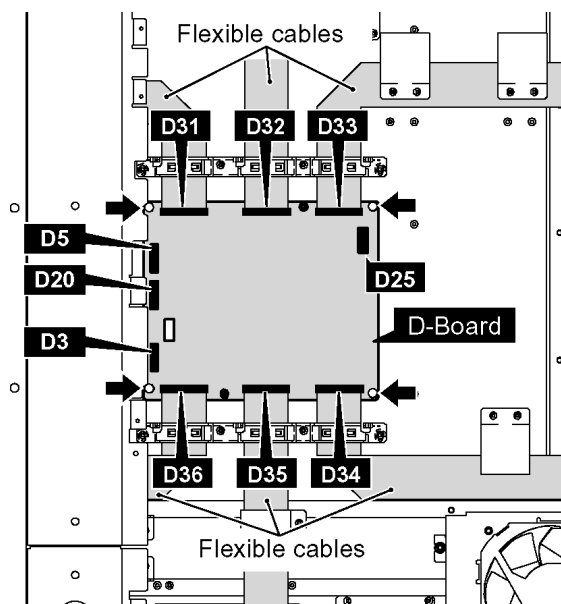
3. Remove 3 screws (Q) and then remove H5-Board.



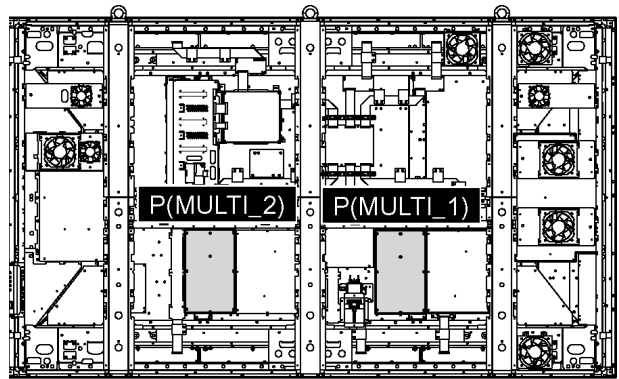
6.11. Removal of D-Board



1. Remove the flexible cables from the connectors (D31, D32, D33, D34, D35, D36).
2. Disconnect the connectors (D3, D5, D20, D25).
3. Remove 4 screws and then remove D-Board.

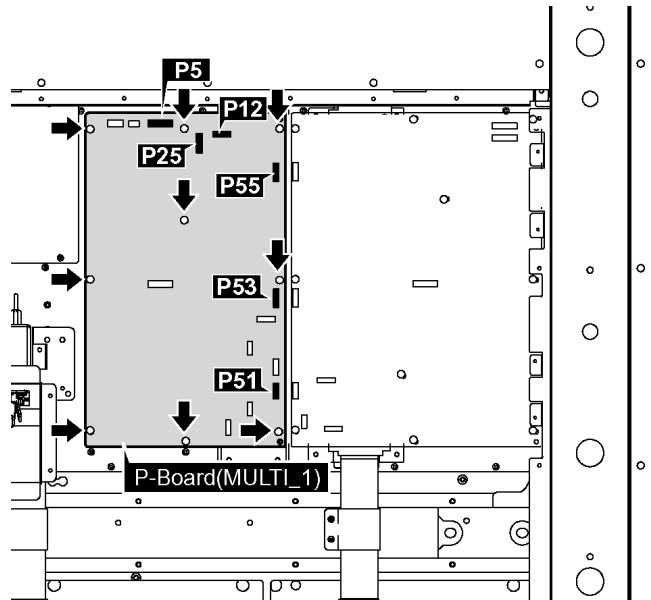


6.12. Removal of P-Board (MULTI_1), (MULTI_2)

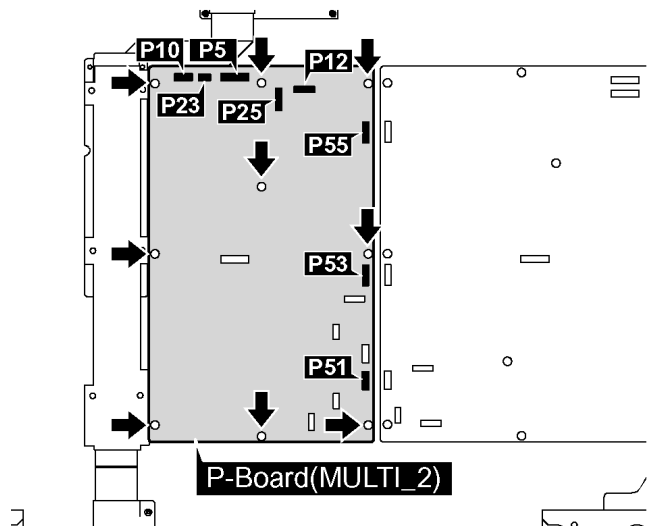


The fuses are not included in P-Board for the repair.

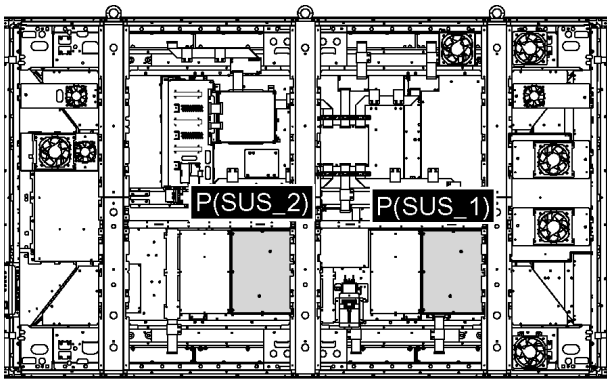
1. Disconnect the connectors (P5, P12, P25, P51, P53, P55).
2. Remove 9 screws and then remove P-Board (MULTI_1).



3. Disconnect the connectors (P5, P10, P12, P23, P25, P51, P53, P55).
4. Remove 9 screw and then remove P-Board (MULTI_1).

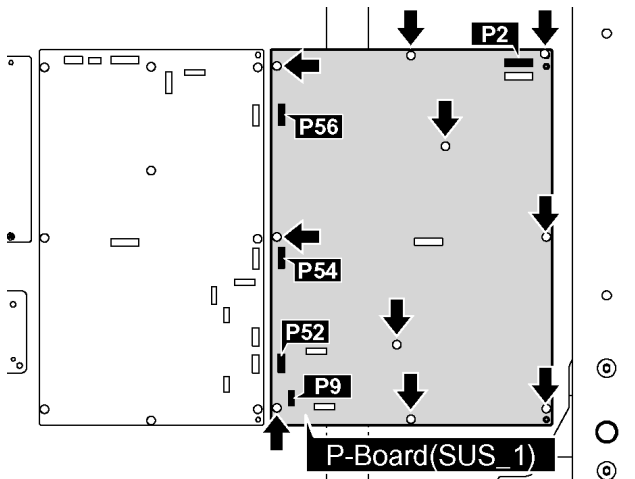


6.13. Removal of P-Board (SUS_1), (SUS_2)

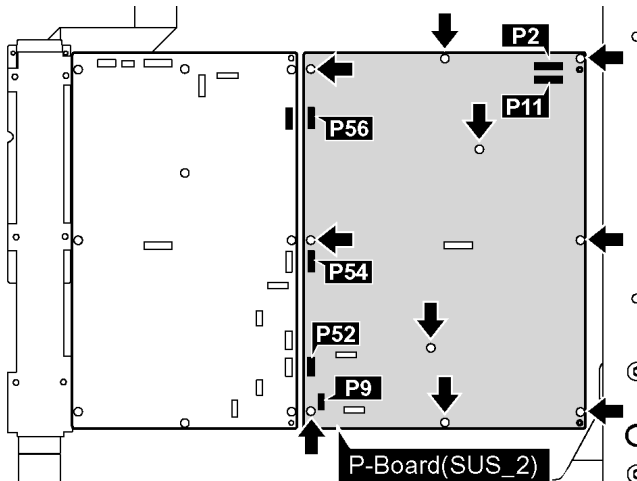


The fuses are not included in P-Board for the repair.

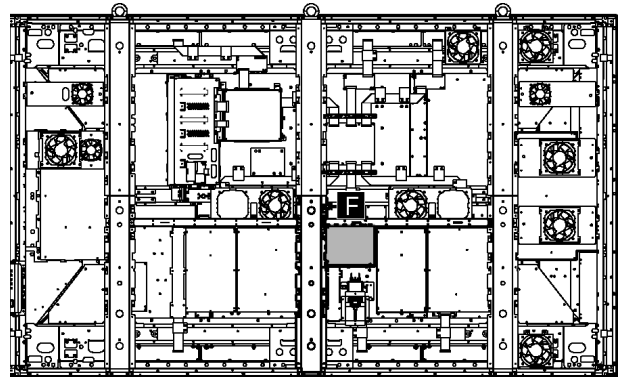
1. Disconnect the connectors (P2, P9, P52, P54, P56).
2. Remove 10 screws and then remove P-Board (SUS_1).



3. Disconnect the connectors (P2, P9, P11, P52, P54, P56).
4. Remove 10 screws and then remove P-Board (SUS_2).

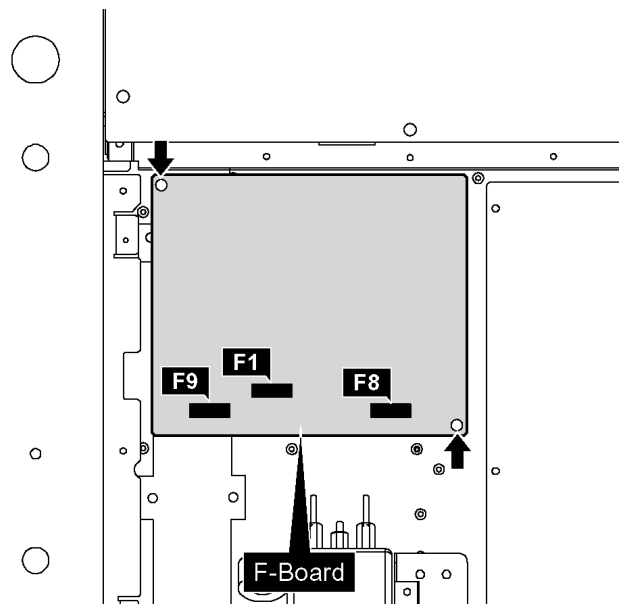


6.14. Removal of F-Board



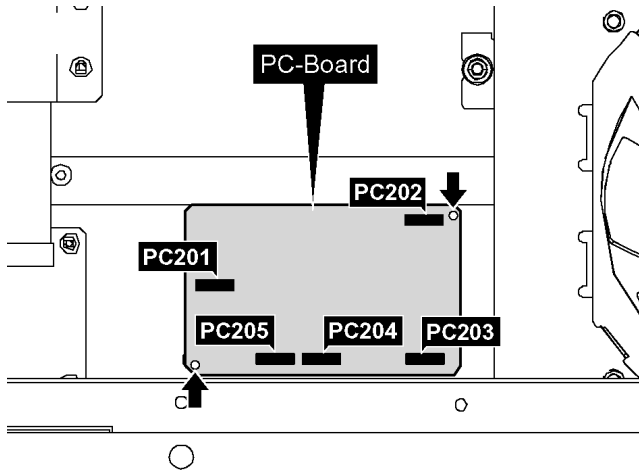
The fuses (F900, F901, F903, F904) are not included in F-Board for the repair.

1. Disconnect the connectors (F1, F8, F9).
2. Remove 2 screws and then remove F-Board.

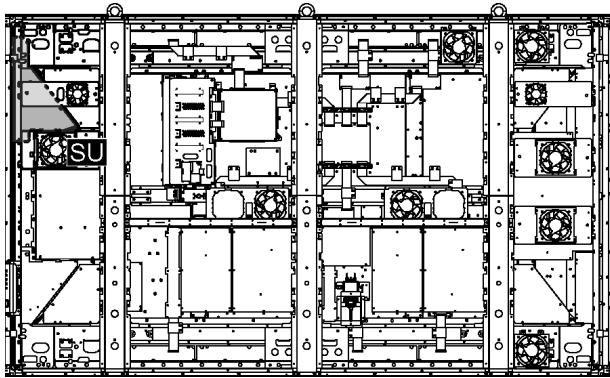


6.15. Removal of PC-Board

1. Disconnect the connectors (PC201, PC202, PC203, PC204, PC205).
2. Remove 2 screws and then remove PC-Board.

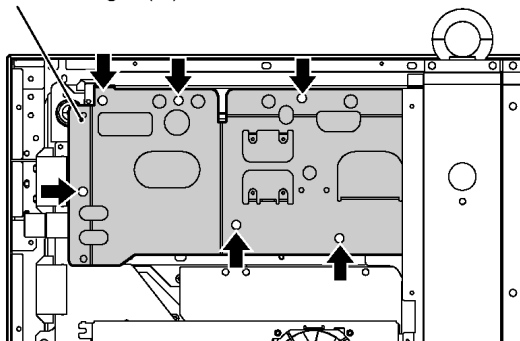


6.16. Removal of SU-Board

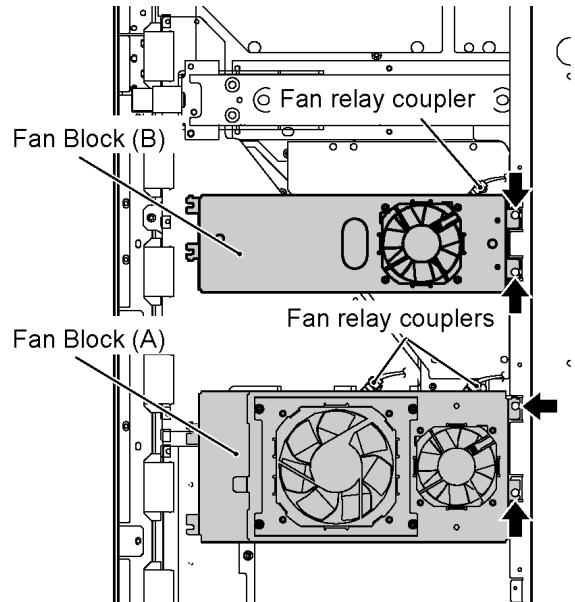


1. Remove the Side Angle (R).
(Refer to Removal of the Side Angle (L), (R))
2. Remove 6 screws and then remove the Reinforcement Angle (A).

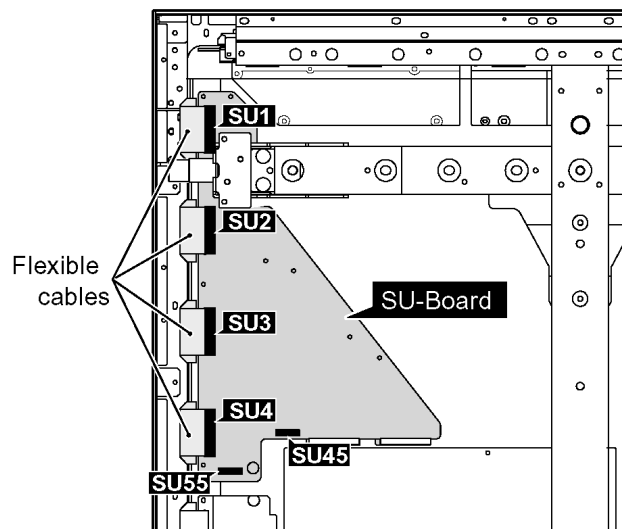
Reinforcement Angle (A)



3. Disconnect the Fan relay couplers.
4. Remove 4 screws and then remove the Fan Block (A), (B).

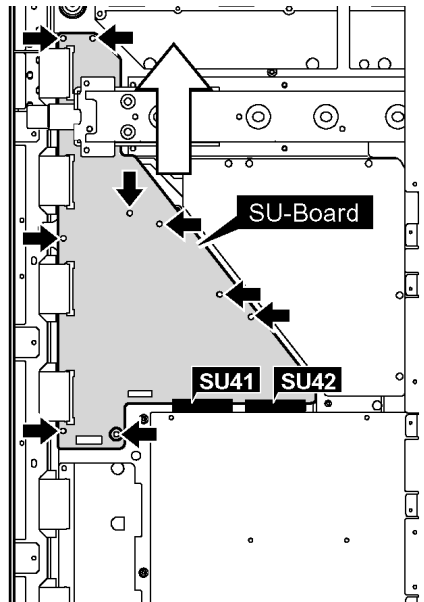


5. Remove the flexible cables from the connectors (SU1, SU2, SU3, SU4).
6. Disconnect the connectors (SU45, SU55).



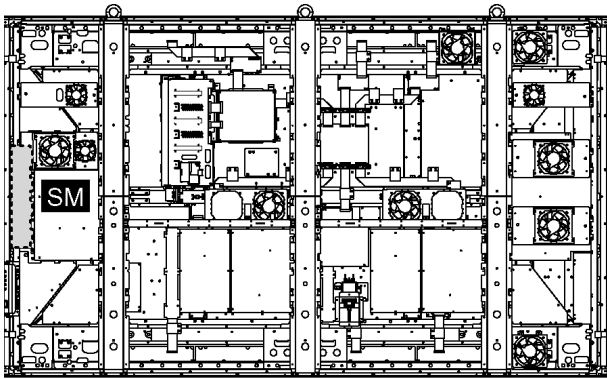
7. Remove 9 screws.
8. Slide the SU-Board to the upper direction to remove the SU-Board from the connectors (SU41, SU42).

Take out so as not to damage SU-Board.

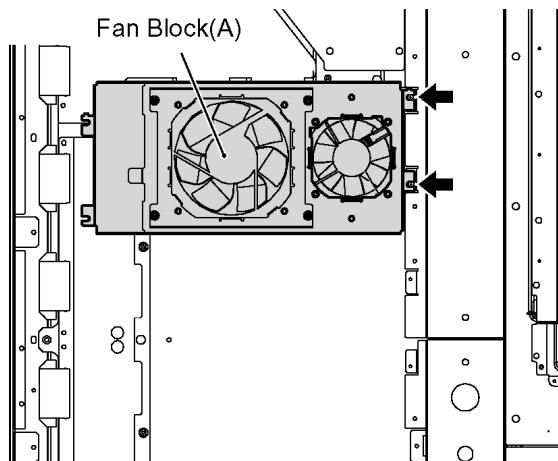


9. Remove SU-Board.

6.17. Removal of SM-Board

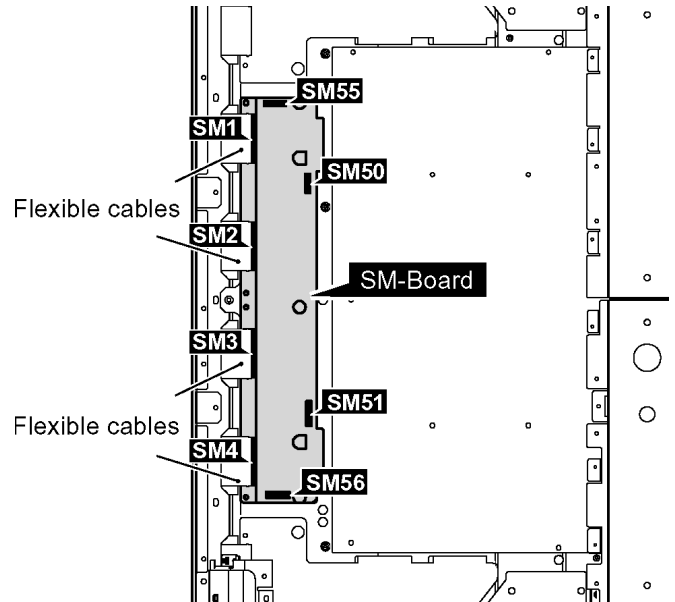


1. Remove 2 screws and then remove the Fan Block (A).



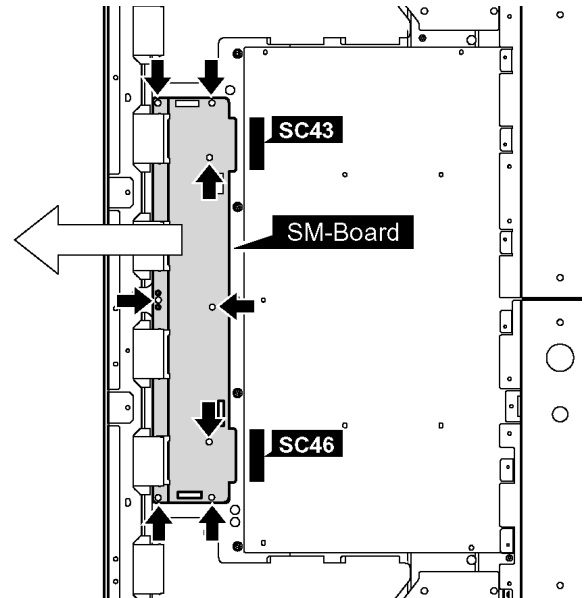
2. Remove the flexible cables from the connectors (SM1, SM2, SM3, SM4).

3. Disconnect the connectors (SM50, SM51, SM55, SM56).



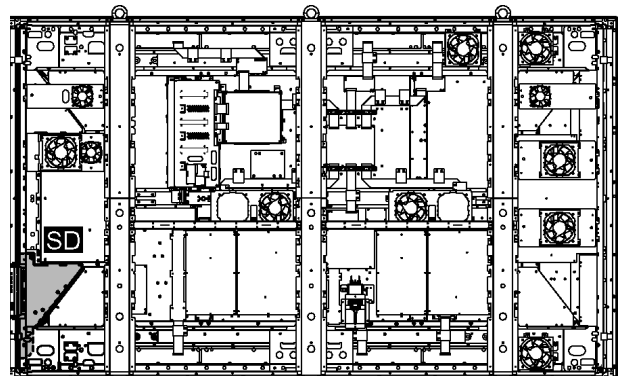
4. Remove 8 screws.

5. Slide SM-Board to the left direction to remove SM-Board from the connectors (SC43, SC46).

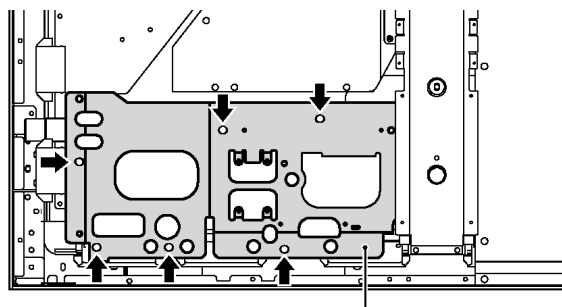


6. Remove SM-Board.

6.18. Removal of SD-Board

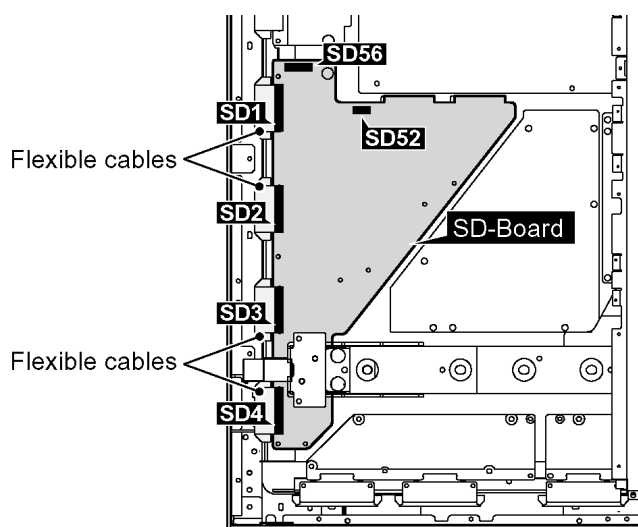


1. Remove 6 screws and then remove the Reinforcement Angle (B).



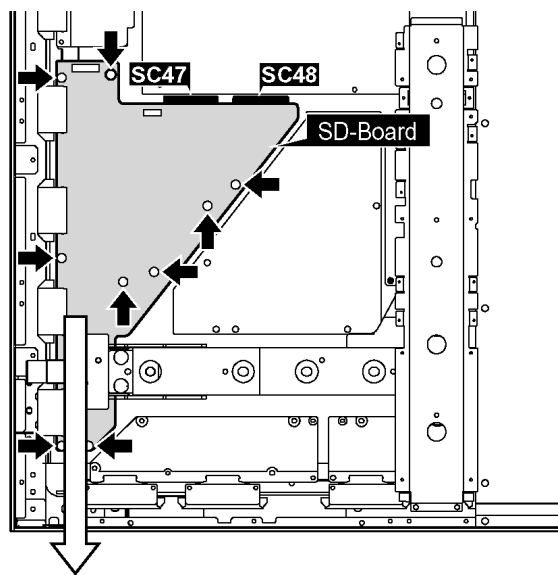
Reinforcement Angle(B)

2. Remove the flexible cables from the connectors (SD1, SD2, SD3, SD4).
3. Disconnect the connectors (SD52, SD56).



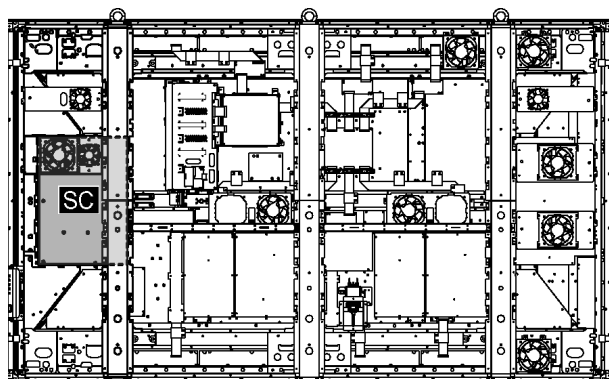
4. Remove 9 screws.
5. Slide SD-Board to the bottom direction to remove SD-Board from the connectors (SC47, SC48).

Take out so as not damage SD-Board.

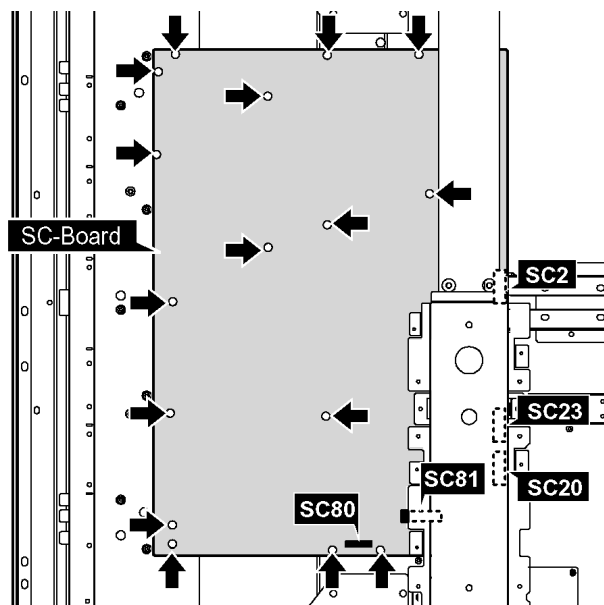


6. Remove SD-Board.

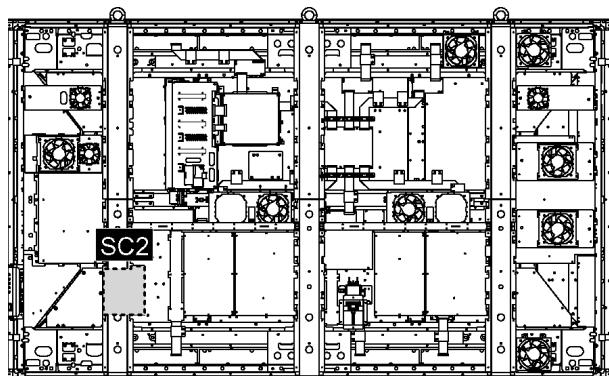
6.19. Removal of SC-Board



1. Remove SU-Board.
(Refer to Removal of SU-Board)
2. Remove SM-Board.
(Refer to Removal of SM-Board)
3. Remove SD-Board.
(Refer to Removal of SD-Board)
4. Disconnect the connectors (SC2, SC20, SC23, SC80, SC81).
5. Remove 16 screws and then remove SC-Board.

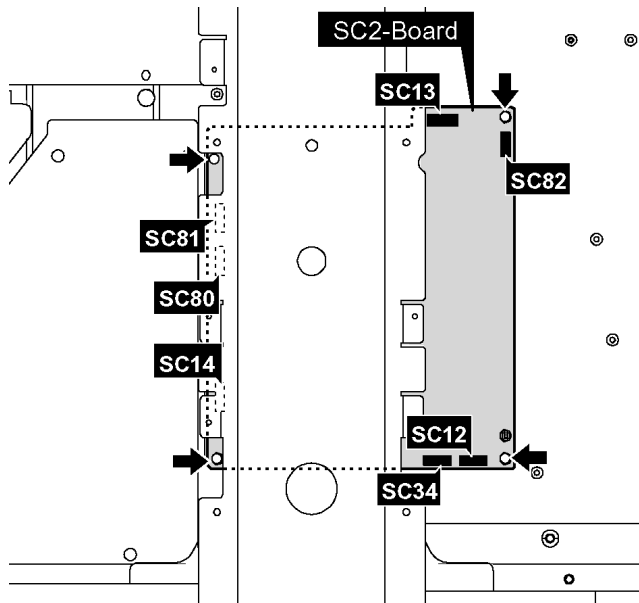


6.20. Removal of SC2-Board

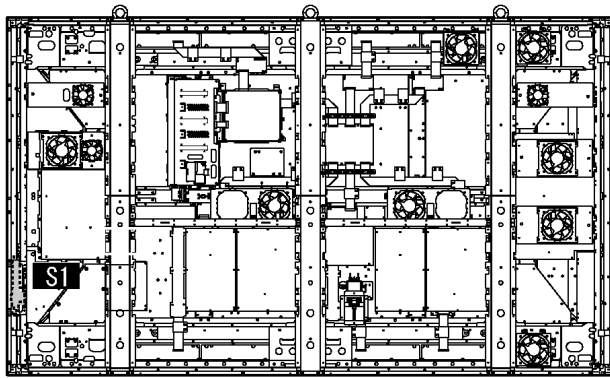


1. Disconnect the connectors (SC12, SC13, SC14, SC34, SC80, SC81, SC82).

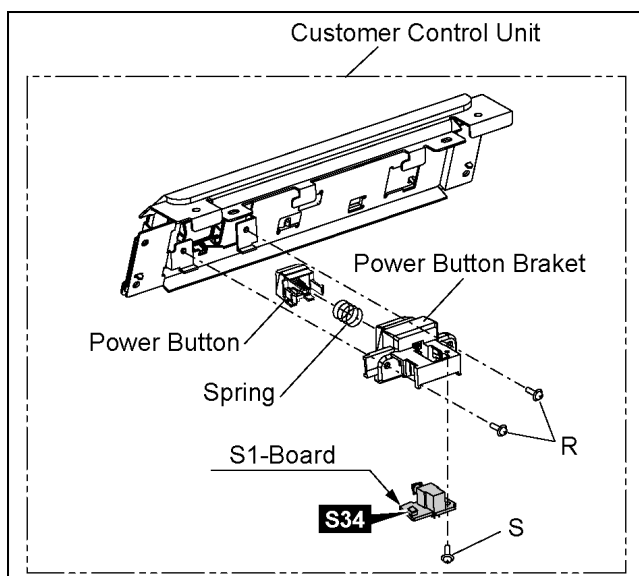
2. Remove 4 screws and then remove SC2-Board.



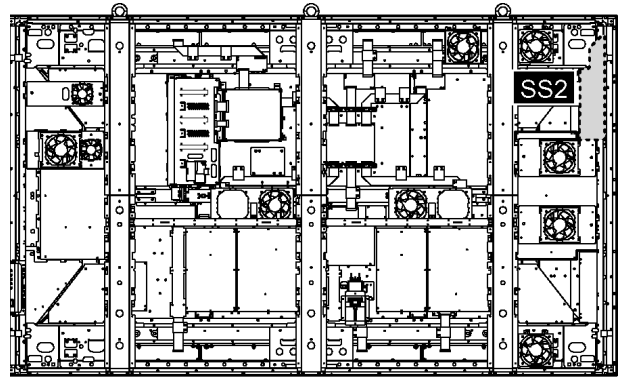
6.21. Removal of S1-Board



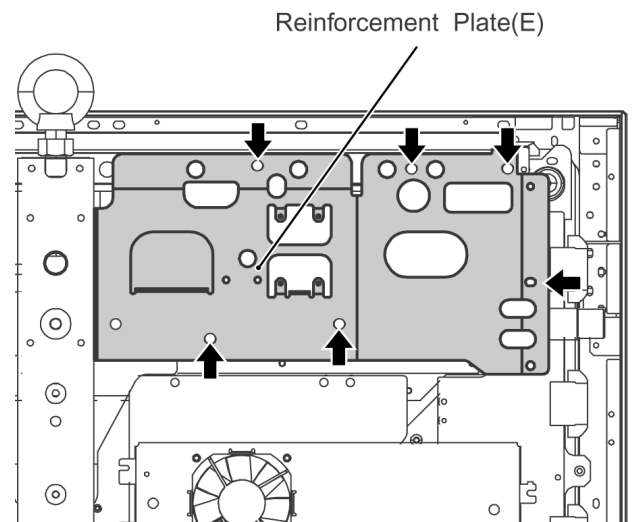
1. Remove the Customer Control Unit.
(Reference to Removal of the Side Angle (L), (R))
2. Remove 2 screws (R).
3. Remove 1 screw (S).
4. Disconnect a connector (S34) and then remove S1-Board.



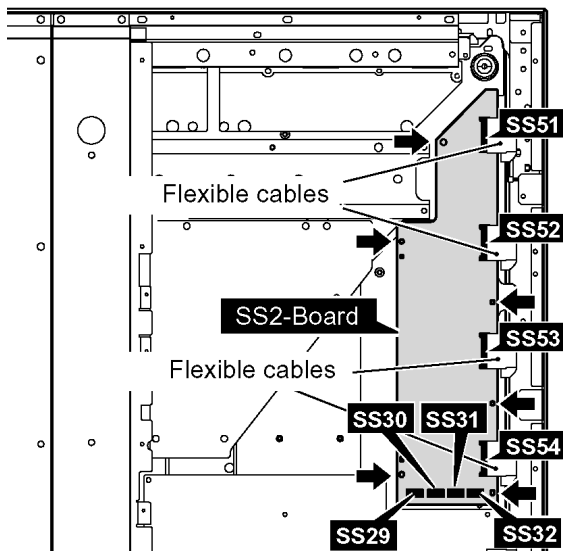
6.22. Removal of SS2-Board



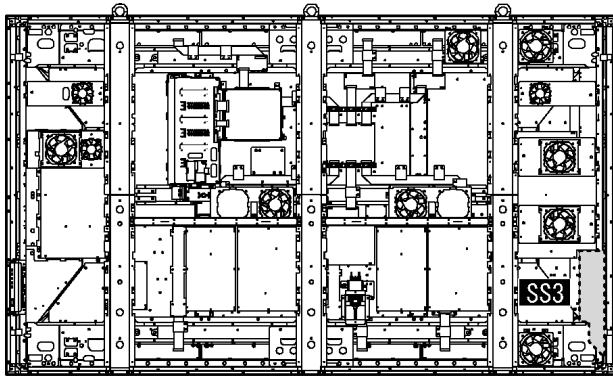
1. Remove the Side Angle (L).
(Refer to Removal of the Side Angle (L))
2. Remove 6 screws and then remove the Reinforcement Plate (E).



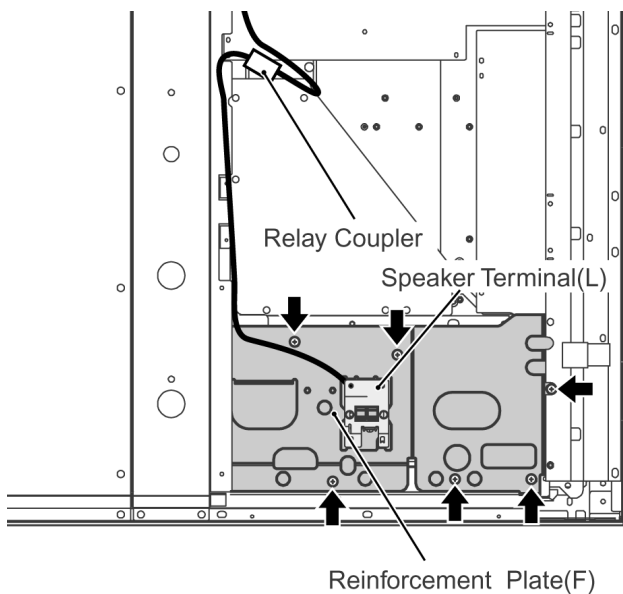
3. Remove the flexible cables from the connectors (SS51, SS52, SS53, SS54).
4. Disconnect the connectors (SS29, SS30, SS31, SS32).
5. Remove 6 screws and then remove SS2-Board.



6.23. Removal of SS3-Board

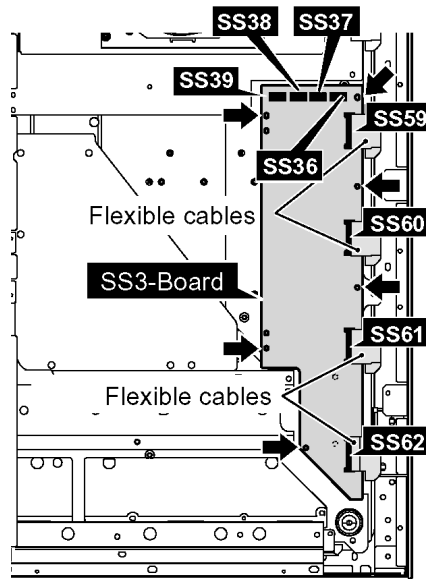


1. Remove the Side Angle (L).
(Refer to Removal of Side Angle (L))
2. Disconnect the relay connector of the Speaker Terminal (L).
3. Remove 6 screws and then remove the Reinforcement Plate (F).

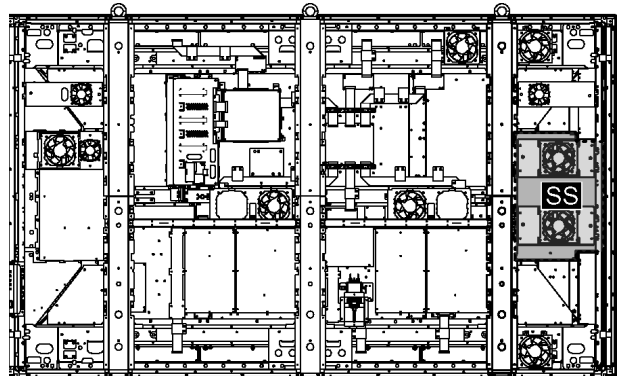


4. Remove the flexible cables from the connectors (SS59, SS60, SS61, SS62).

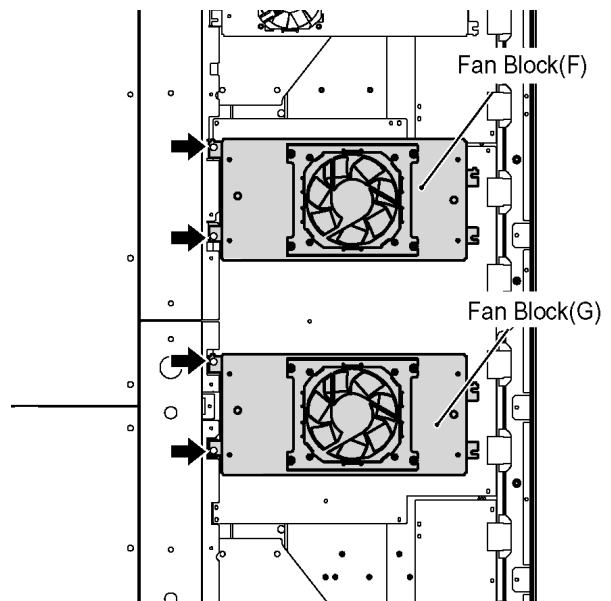
5. Disconnect the connectors (SS36, SS37, SS38, SS39).
6. Remove 6 screws and then remove SS3-Board.



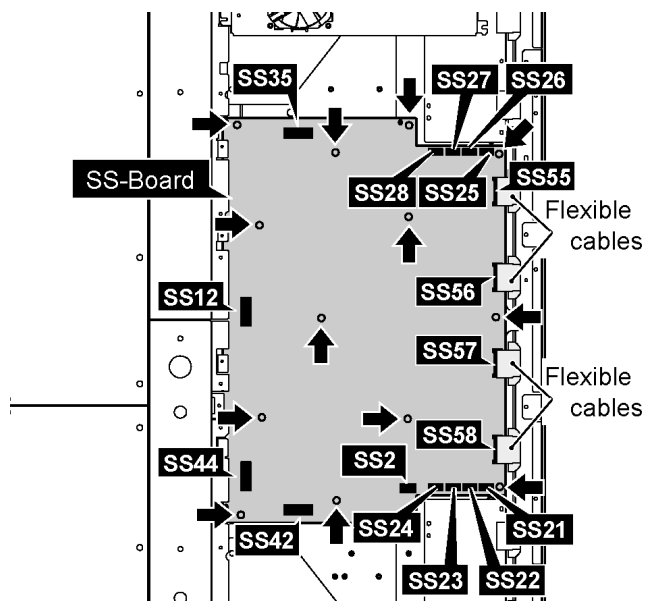
6.24. Removal of SS-Board



1. Remove the Side Angle (L).
(Refer to Removal of Side Angle (L))
2. Remove 4 screws and then remove the Fan Block (F), (G).

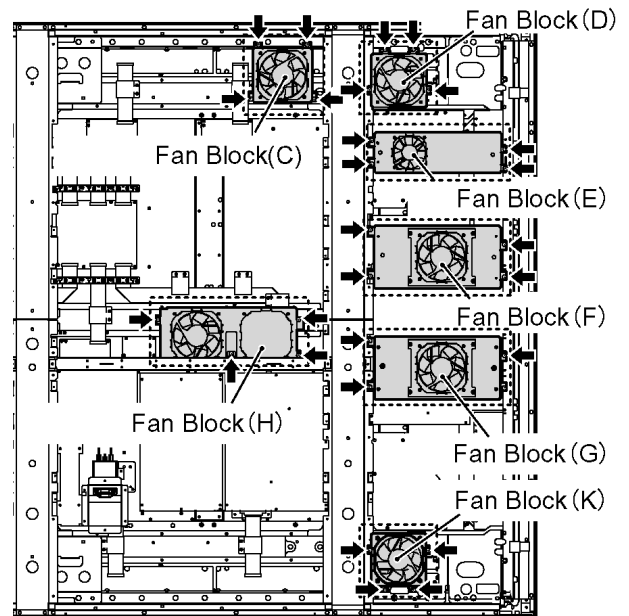
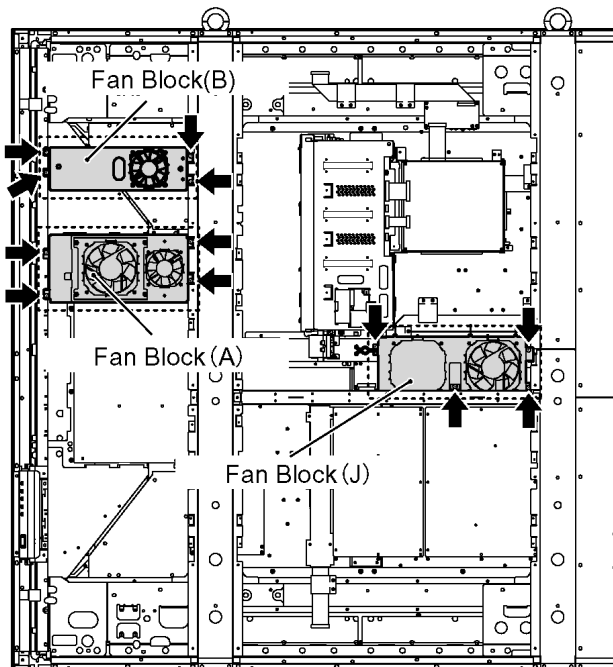


3. Remove the flexible cables from the connectors (SS55, SS56, SS57, SS58).
4. Disconnect the connectors (SS2, SS12, SS21, SS22, SS23, SS24, SS25, SS26, SS27, SS28, SS35, SS42, SS44).
5. Remove 13 screws and then remove SS-Board.

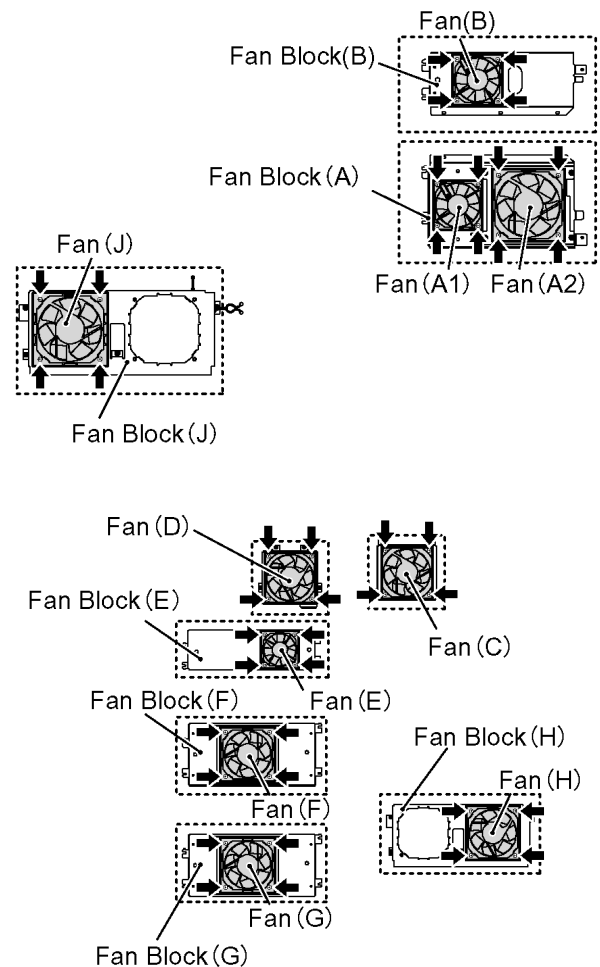


6.25. Removal of Fan

1. Disconnect the Fan relay connector.
2. Remove each 4 screws of Fan Block (A), (B), (C), (D), (E), (F), (G), (H), (J), (K) and then remove the Fan Blocks.

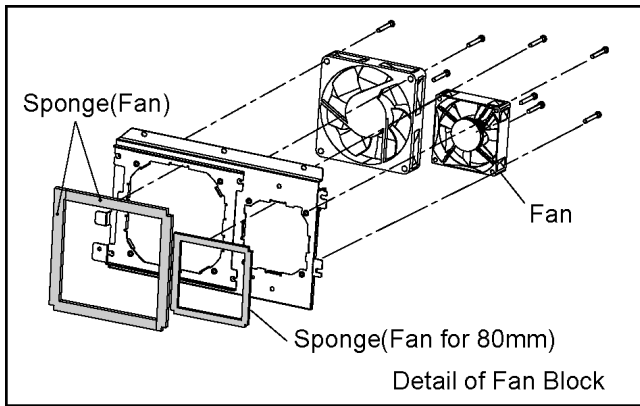


3. Remove each screws and then remove Fans.

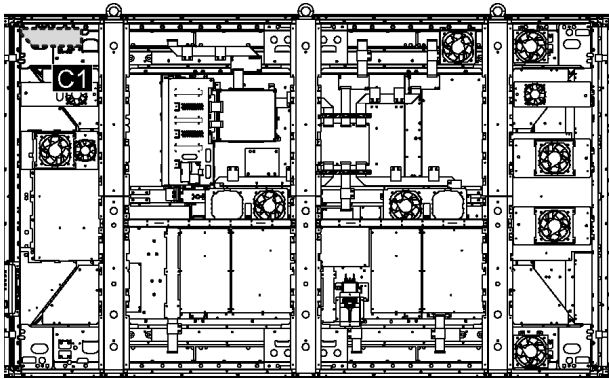


Note:

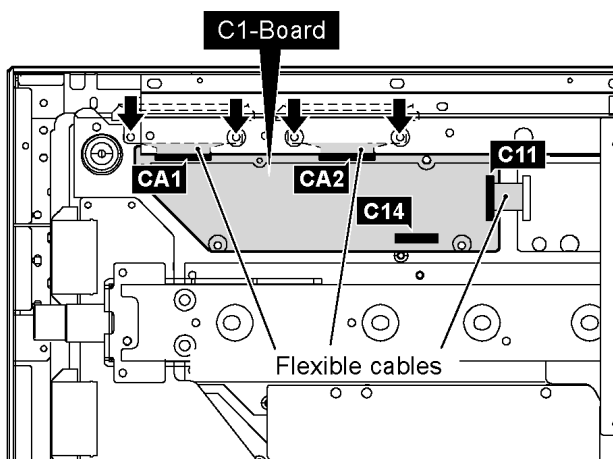
- The Sponge (of Fans) is not re-useable.
Please use a new one when Fan exchange.



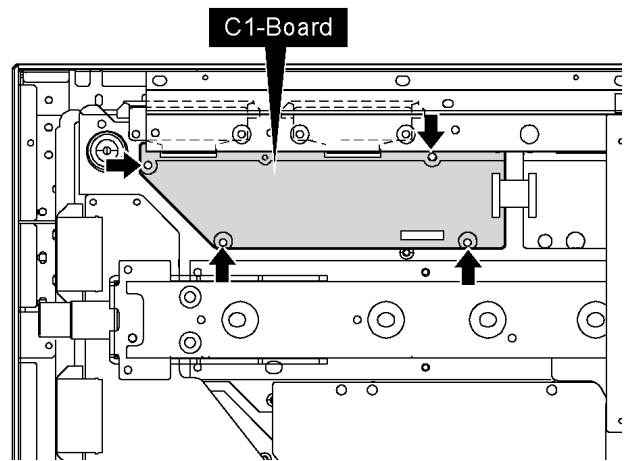
6.26. Removal of C1-Board



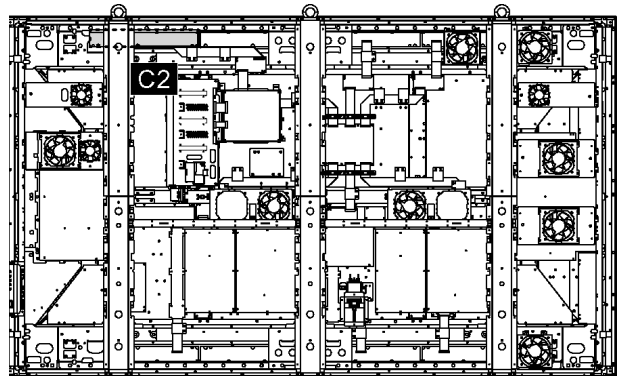
1. Remove the Side Angle (R).
(Refer to Removal of Side Angle (R))
2. Remove the Reinforcement Angle (A).
(Refer to Removal of SU-Board)
3. Remove 4 screws of the flexible cable.
4. Disconnect the coupler (C14).
5. Remove the flexible cables from the connectors (CA1, CA2, C11).



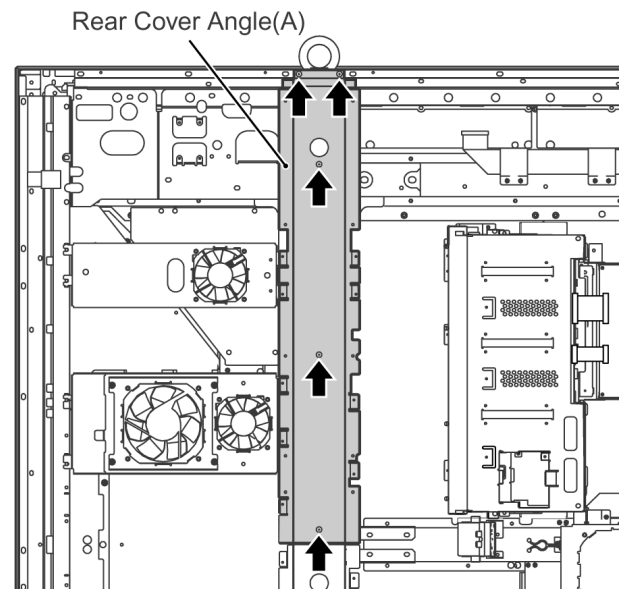
6. Remove 4 screws and then remove C1-Board.



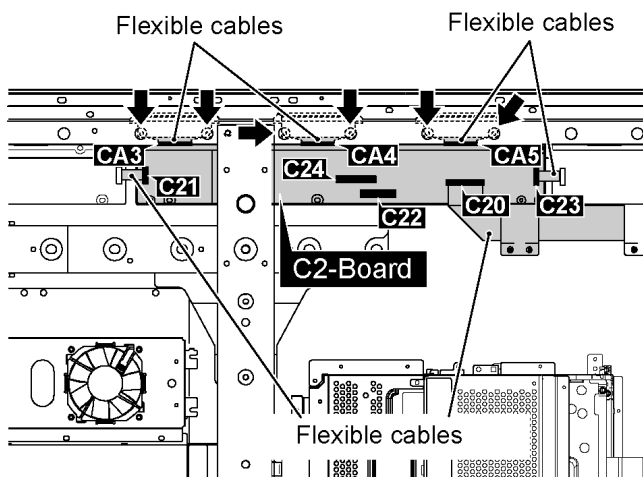
6.27. Removal of C2-Board



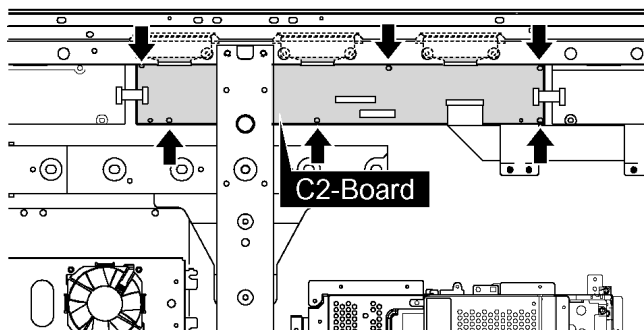
1. Remove 5 screws and then remove the Rear Cover Angle (A).



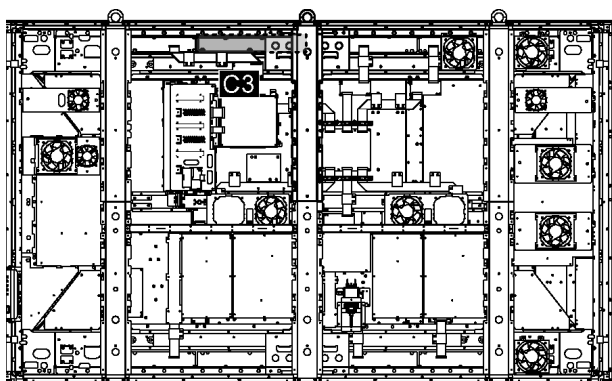
2. Remove the Reinforcement Angle (A).
(Refer to Removal of C1-Board)
3. Remove 6 screws of the flexible cable.
4. Remove the flexible cables from the connectors (CA3, CA4, CA5, C20, C21, C23).
5. Disconnect the connectors (C22, C24).



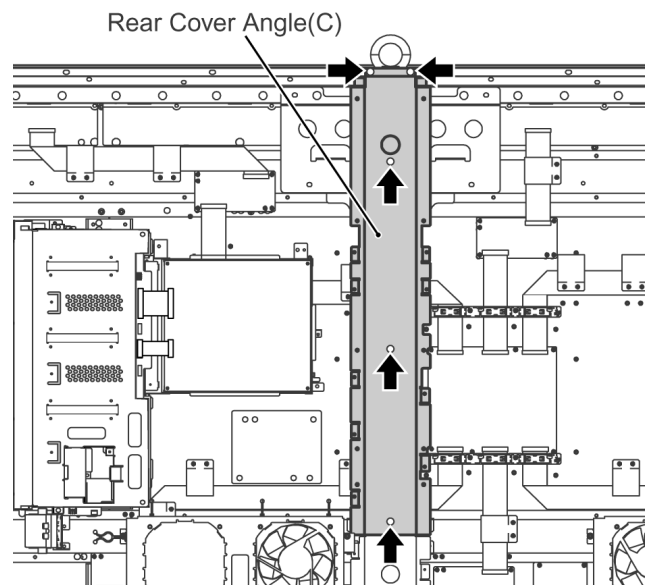
6. Remove 6 screws and then remove C2-Board.



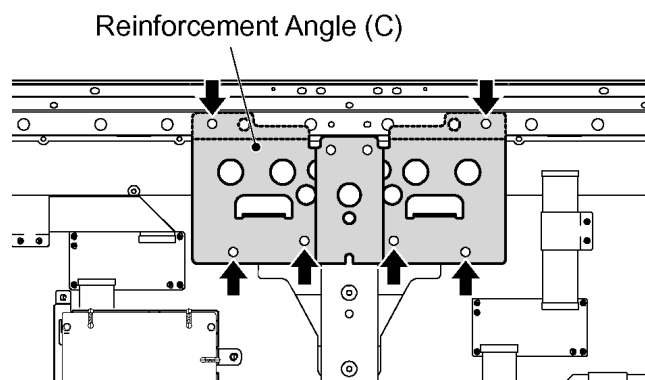
6.28. Removal of C3-Board



1. Remove 5 screws and then remove the Rear Cover Angle (C).



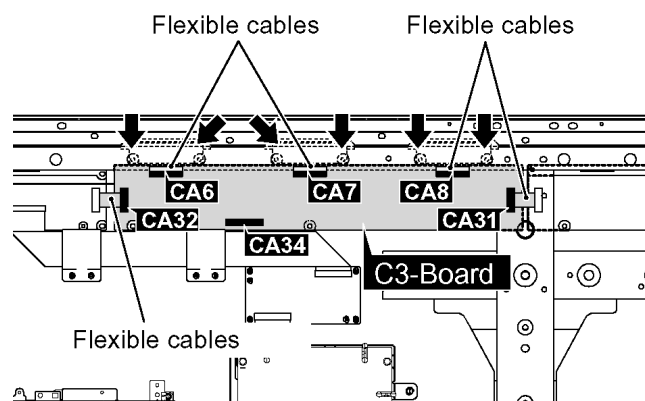
2. Remove 6 screws and then remove the Reinforcement Angle (C).



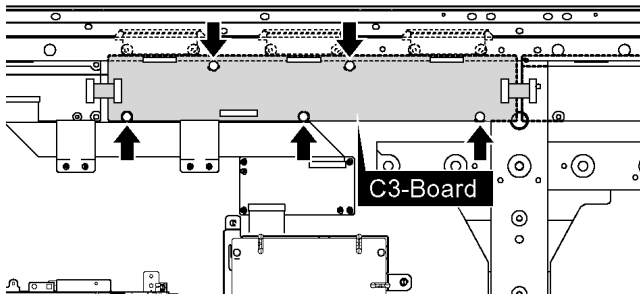
3. Remove 6 screws of the flexible cable.

4. Remove the flexible cables from the connectors (CA6, CA7, CA8, C31, C32).

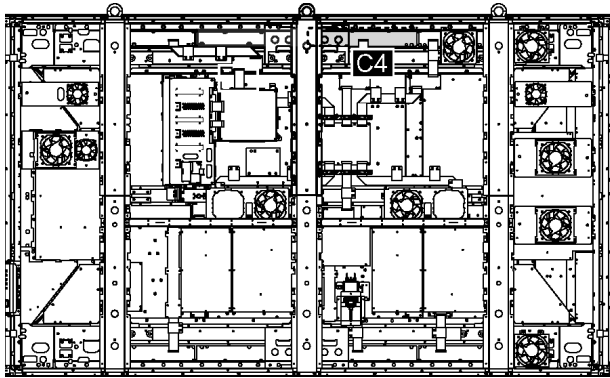
5. Disconnect a connector (C34).



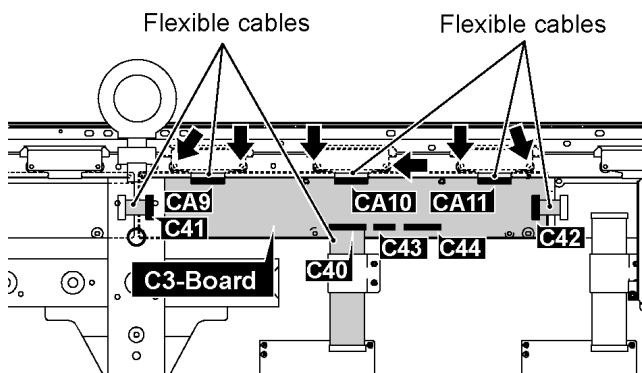
6. Remove 5 screws and then remove C3-Board.



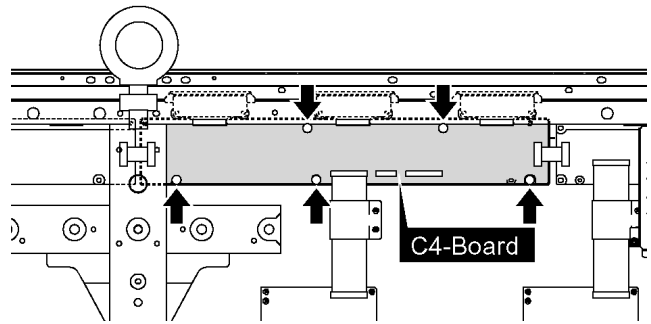
6.29. Removal of C4-Board



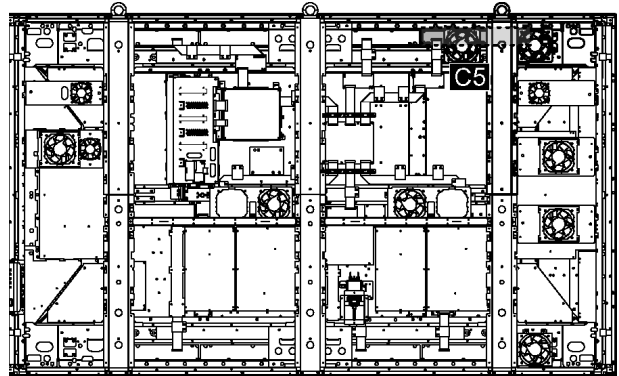
1. Remove 5 screws and then remove the Rear Cover Angle (C).
- (Refer to Removal of C3-Board)
2. Remove 6 screws and then remove the Reinforcement Angle (C).
- (Refer to Removal of C3-Board)
3. Remove the 6 screws of the flexible cable.
4. Remove the flexible cables from the connectors (CA9, CA10, CA11, C40, C41, C42).
5. Disconnect the connectors (C43, C44).



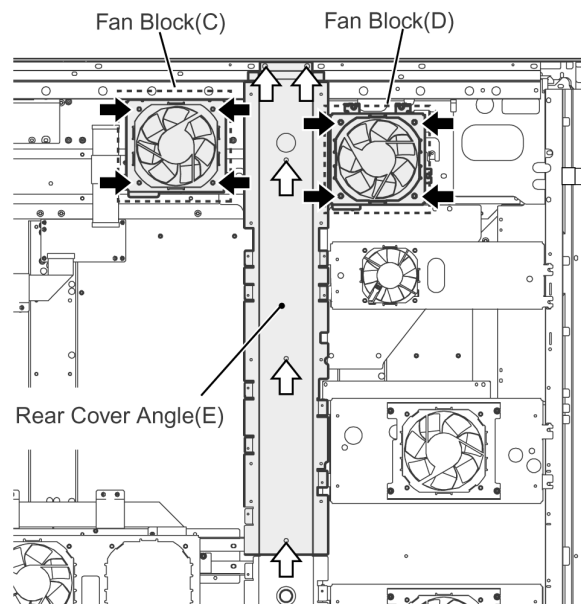
6. Remove 5 screws and then remove C4-Board.



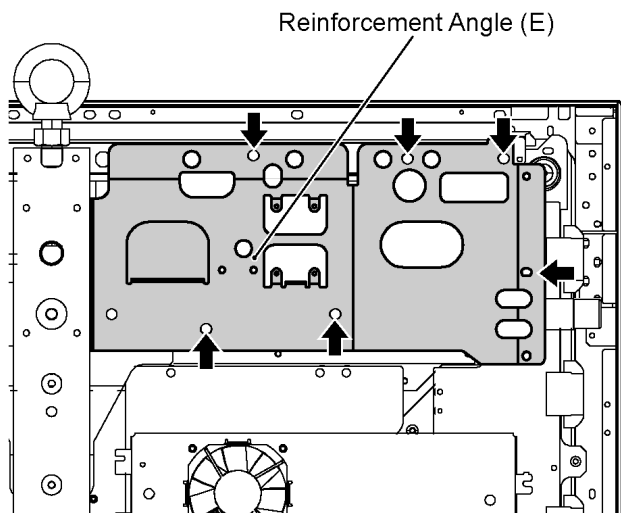
6.30. Removal of C5-Board



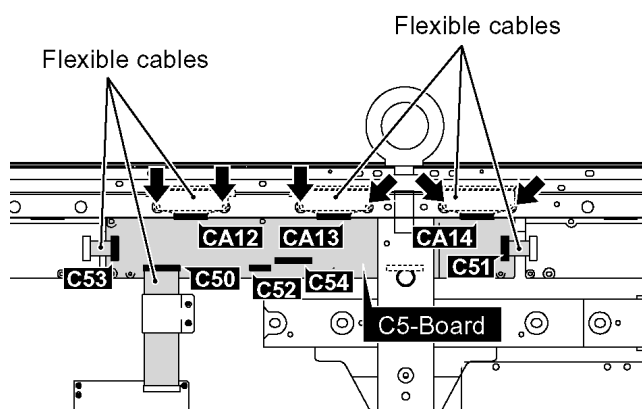
1. Remove 8 screws (↑) and then remove the Fan Block (C), (D).
2. Remove 5 screws (⇧) and then remove the Rear Cover Angle (E).



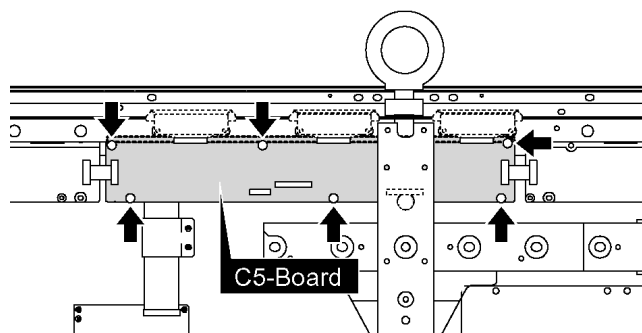
3. Remove 6 screws and then remove the Reinforcement Angle (E).



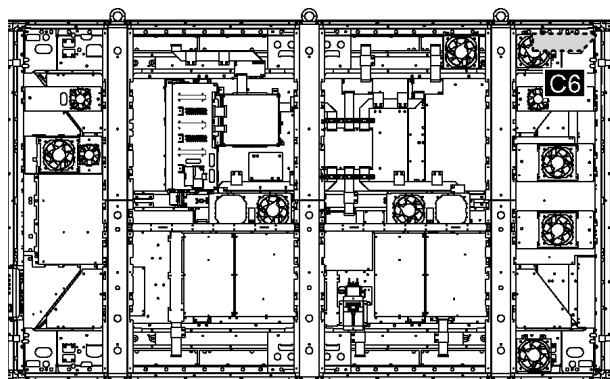
4. Remove 6 screws of the flexible cable.
5. Remove the flexible cables from the connectors (CA12, CA13, CA14, C50, C51, C53).
6. Disconnect the connectors (C52, C54).



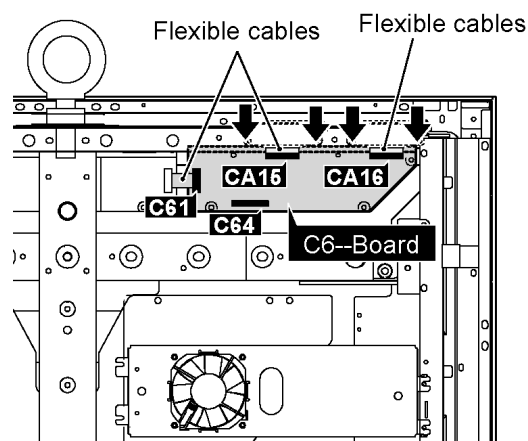
7. Remove 6 screws and then remove C5-Board.



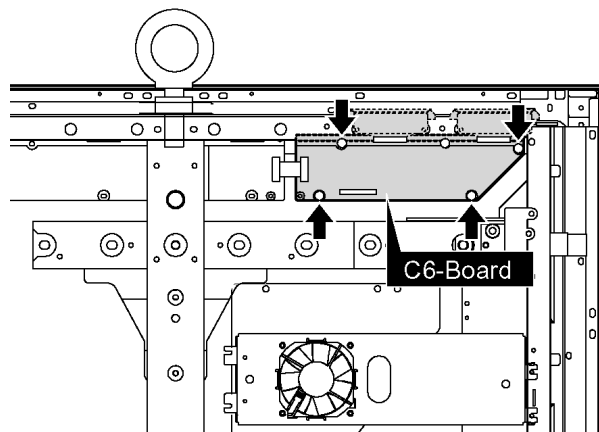
6.31. Removal of C6-Board



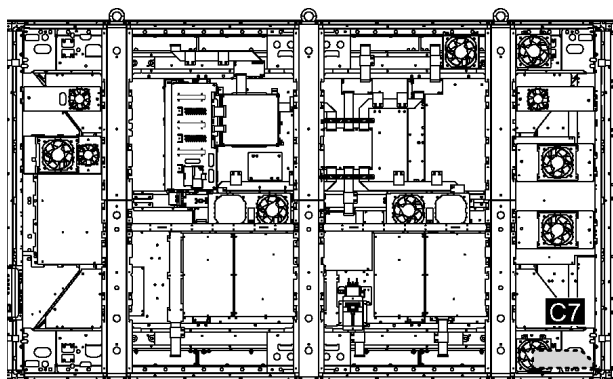
1. Remove the Side Angle (L).
(Refer to Removal of Side Angle (L))
2. Remove the Fan Block (D).
(Refer to Removal of Fan)
3. Remove the Reinforcement Angle (E).
(Refer to Removal of C5-Board)
4. Remove 4 screws of the flexible cable.
5. Remove the flexible cables from the connectors (CA15, CA16, C61).
6. Disconnect the connector (C64).



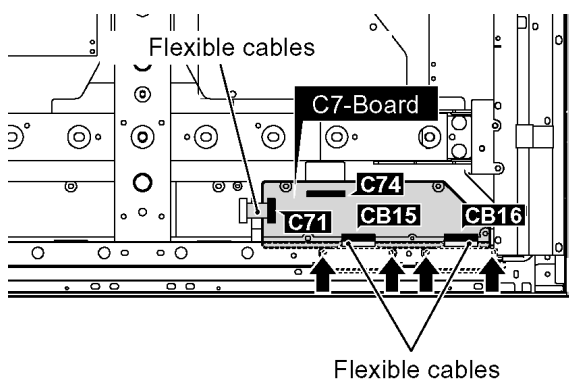
7. Remove 4 screws and then remove C6-Board.



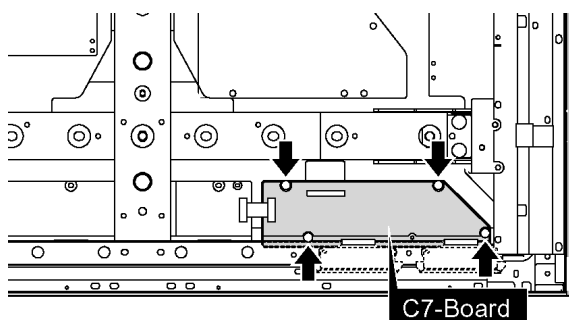
6.32. Removal of C7-Board



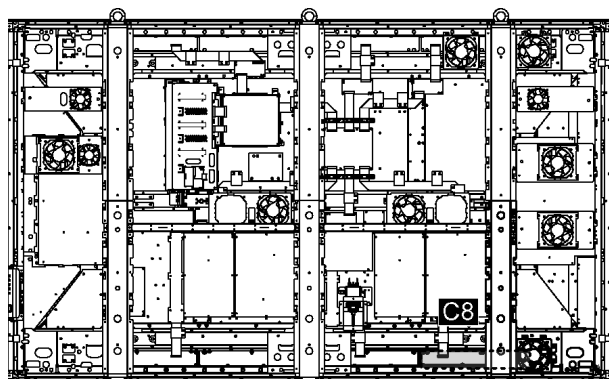
1. Remove the Side Angle (L).
(Refer to Removal of the Side Angle (L))
2. Remove the Reinforcement Angle (F).
(Refer to Removal of SS3-Board)
3. Remove 4 screws of the flexible cable.
4. Remove the flexible cables from the connectors (CB15, CB16, C71).
5. Disconnect the connector (C74).



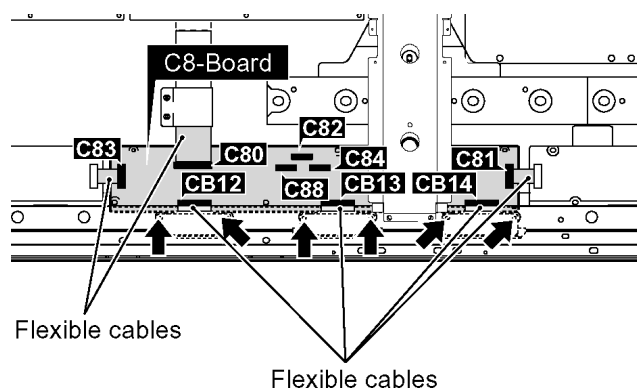
6. Remove 4 screws and then remove C7-Board.



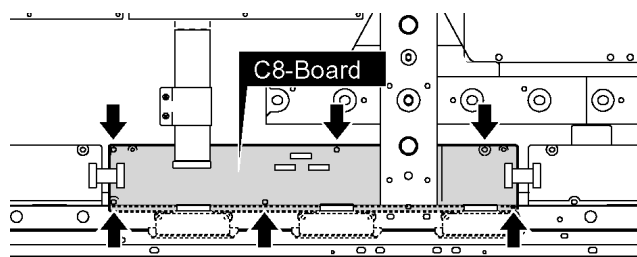
6.33. Removal of C8-Board



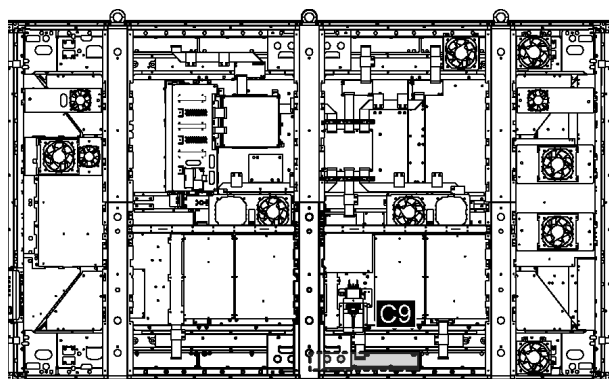
1. Remove 6 screws of the flexible cable.
2. Remove the flexible cables from the connectors (CB12, CB13, CB14, C80, C81, C83).
3. Disconnect the connectors (C82, C84, C88).



4. Remove 6 screws and then remove C8-Board.

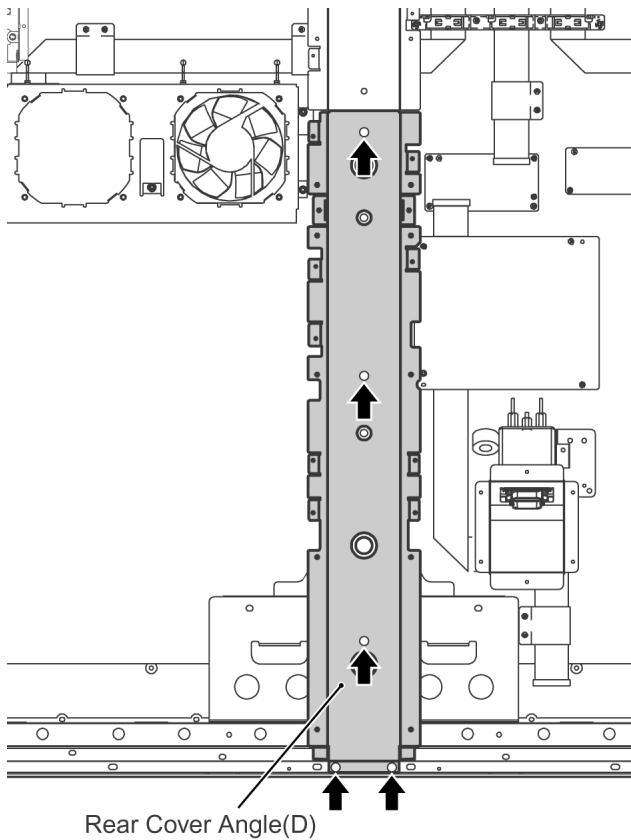


6.34. Removal of C9-Board

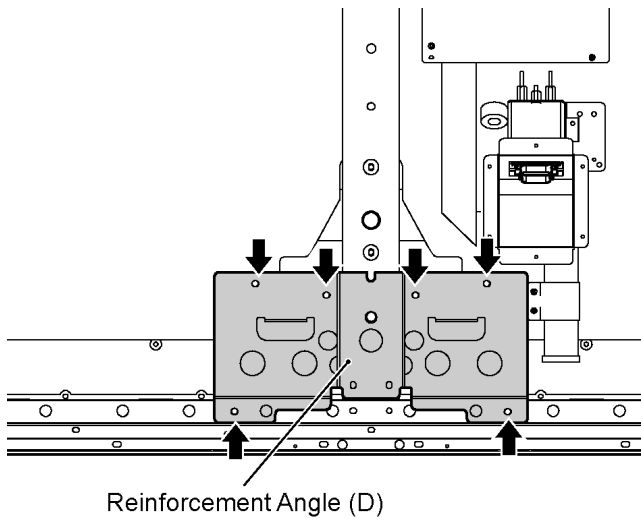


1. Remove 5 screws and then remove the Rear Cover Angle

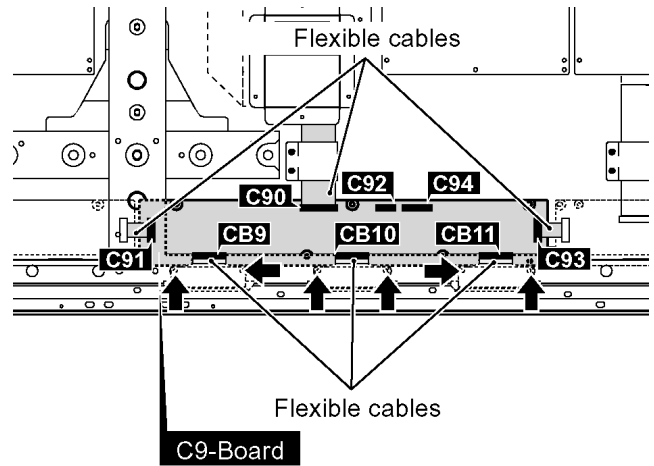
(D).



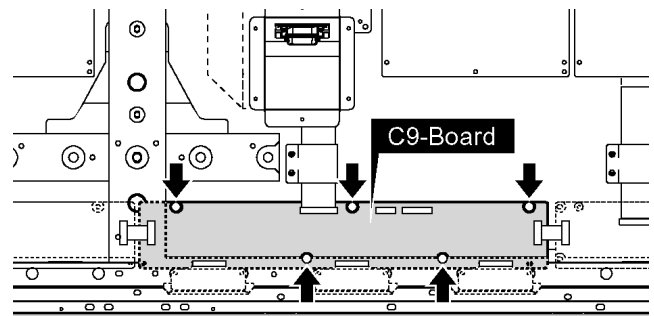
2. Remove 6 screws and then remove the Reinforcement Angle (D).



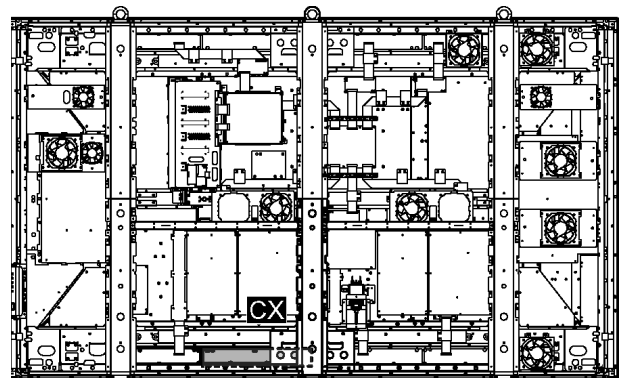
3. Remove 6 screws of the flexible cable.
4. Remove the flexible cables from the connectors (CB9, CB10, CB11, C90, C91, C93).
5. Disconnect the connectors (C92, C94).



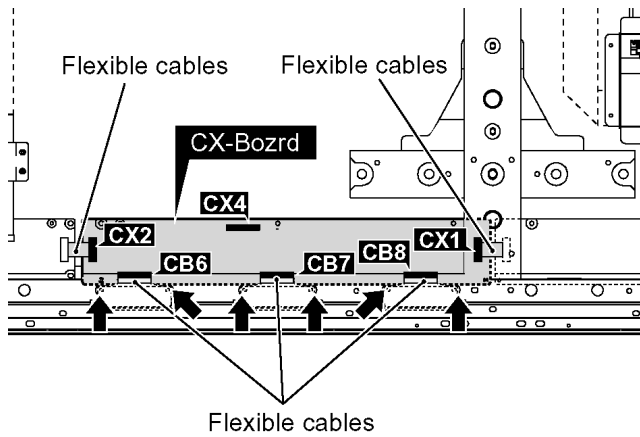
6. Remove 5 screws and then remove C9-Board.



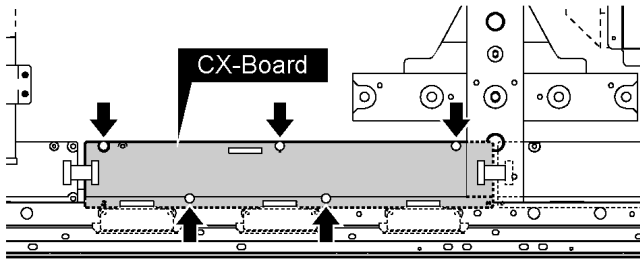
6.35. Removal of CX-Board



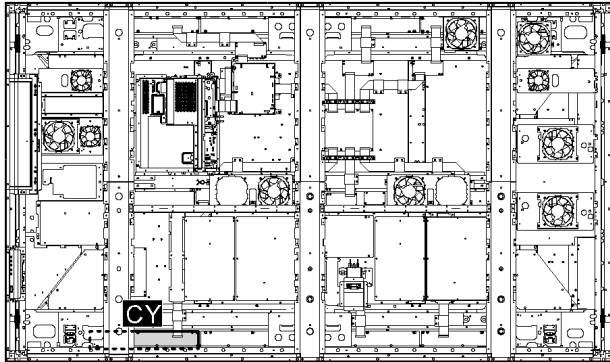
1. Remove the Rear Cover Angle (D).
(Refer to Removal of C9-Board)
2. Remove the Reinforcement Angle (D).
(Refer to Removal of C9-Board)
3. Remove 6 screws of the flexible cable.
4. Remove the flexible cables from the connectors (CB6, CB7, CB8, CX1, CX2).
5. Disconnect a connector (CX4).



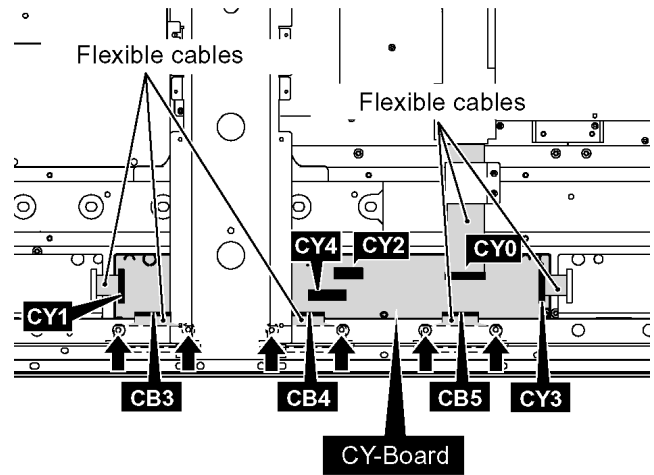
6. Remove 5 screws and then remove CX-Board.



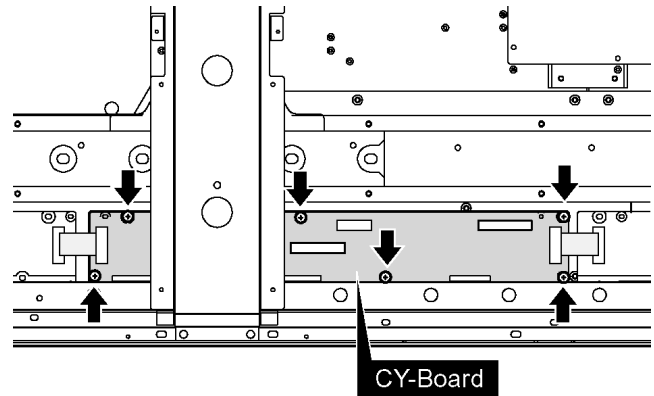
6.36. Removal of CY-Board



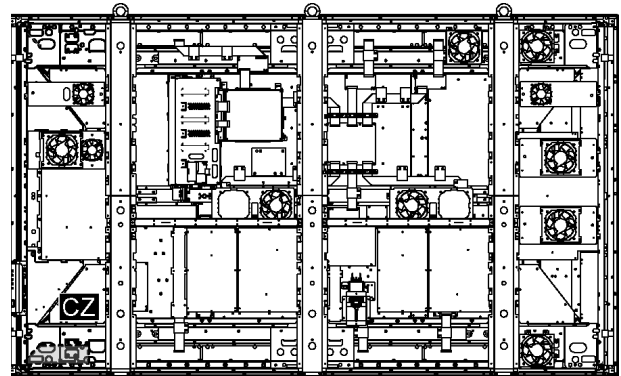
1. Remove the Reinforcement Angle (B).
(Refer to Removal of SD-Board)
2. Remove 6 screws of the flexible cable.
3. Remove the flexible cables from the connectors (CB3, CB4, CB5, CY0, CY1, CY3).
4. Disconnect the connectors (CY2, CY4).



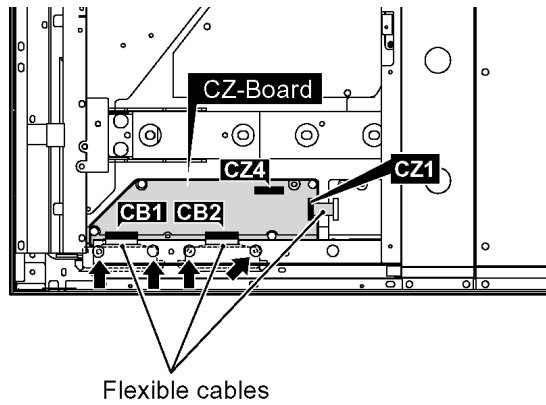
5. Remove 6 screws and then remove CY-Board.



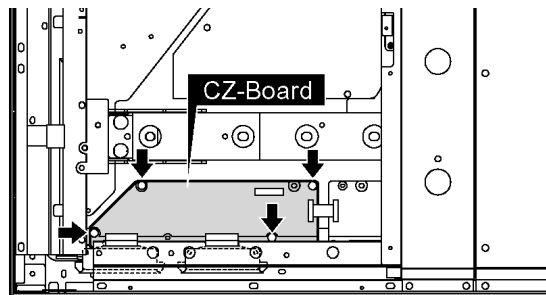
6.37. Removal of CZ-Board



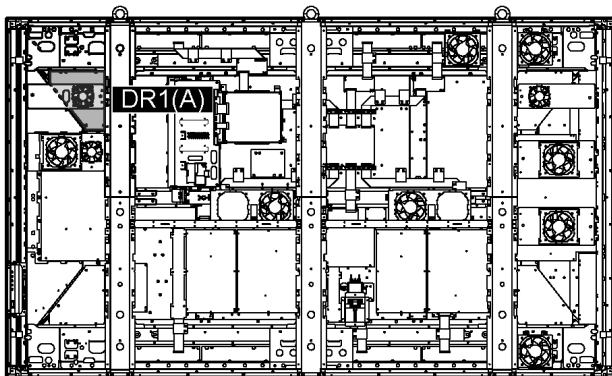
1. Remove the Side Angle (R).
(Refer to Removal of Side Angle (R))
2. Remove the Reinforcement Angle (B).
(Refer to Removal of SD-Board)
3. Remove 4 screws of the flexible cable.
4. Disconnect the connector (C4).
5. Remove the flexible cables from the connectors (CB1, CB2, CZ1).



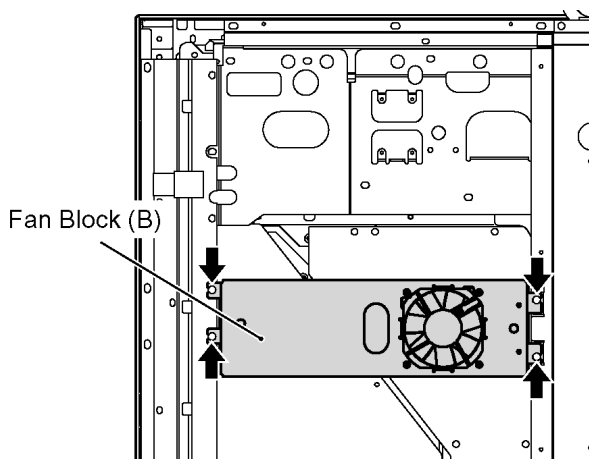
6. Remove 4 screws and then remove CZ-Board.



6.38. Removal of DR1-Board (A)

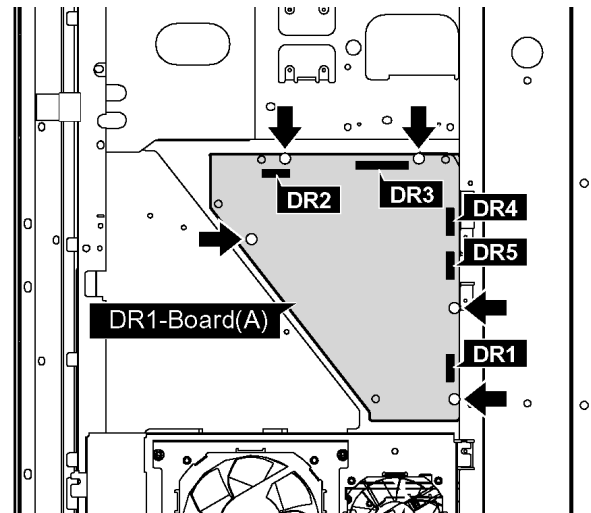


1. Remove 4 screws and then remove the Fan Block (B).



2. Disconnect the connectors (DR1, DR2, DR3, DR4, DR5).

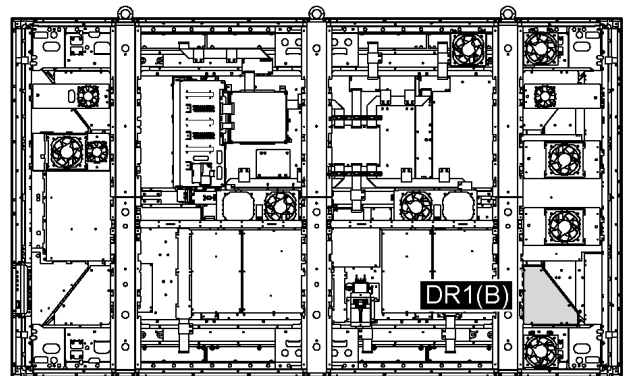
3. Remove 5 screws and then remove the DR1-Board (A).



6.39. Removal of DR1-Board (B)

Attaching short jumper to connector (DR6).

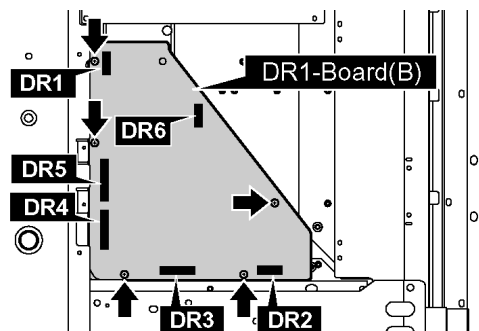
Attach Short Jumper to the connector (DR6) when replacing DR1-Board.



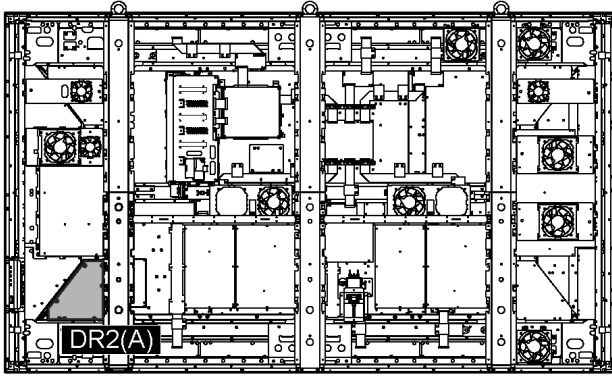
1. Disconnect the connectors (DR1, DR2, DR3, DR4, DR5).

2. Remove 5 screws and then remove DR1-Board (B).

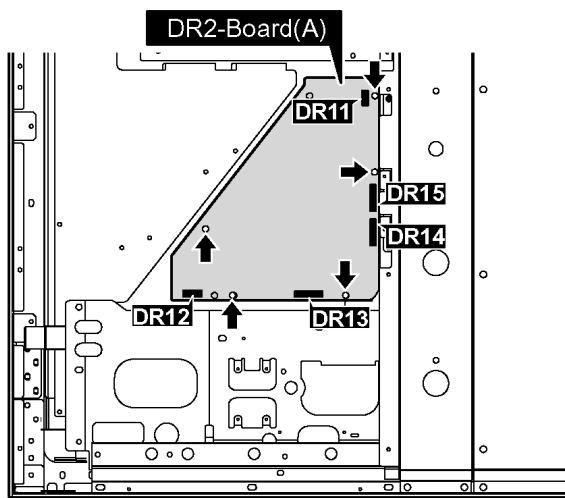
3. Remove Short Jumper attaching to the connector (DR6) on DR1-Board you removed and attach it to the connector (DR6).



6.40. Removal of DR2-Board (A)



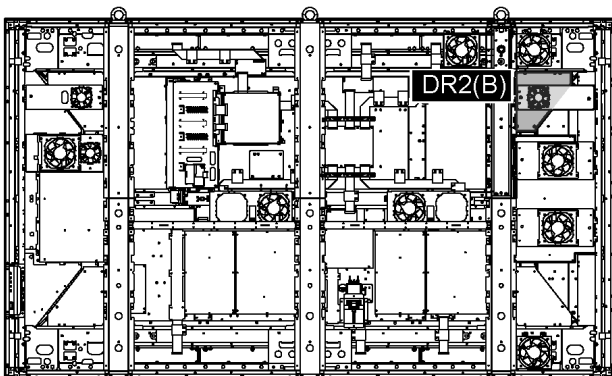
1. Disconnect the connectors (DR11, DR12, DR13, DR14, DR15).
2. Remove 5 screws and then remove DR2-Board (A).



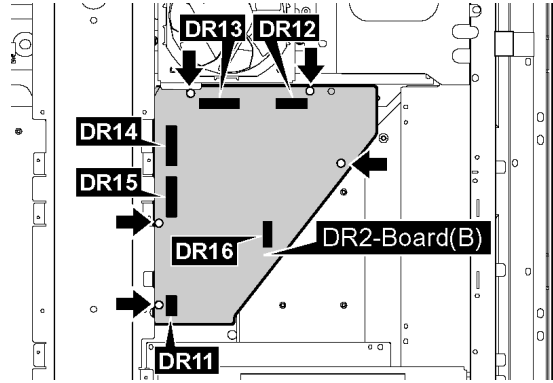
6.41. Removal of DR2-Board (B)

Attaching short jumper to connector (DR16).

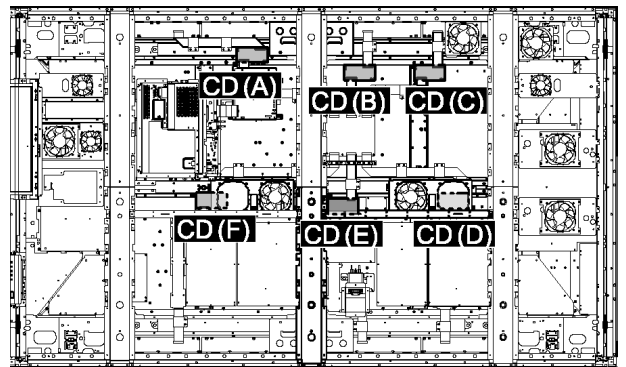
Attach Short Jumper to the connector (DR16) when replacing DR2-Board.



1. Disconnect the connectors (DR11, DR12, DR13, DR14, DR15).
2. Remove 5 screws and then remove DR2-Board (B).
3. Remove Short Jumper attaching to the connector (DR16) on DR2-Board you removed and attach it to the connector (DR16).

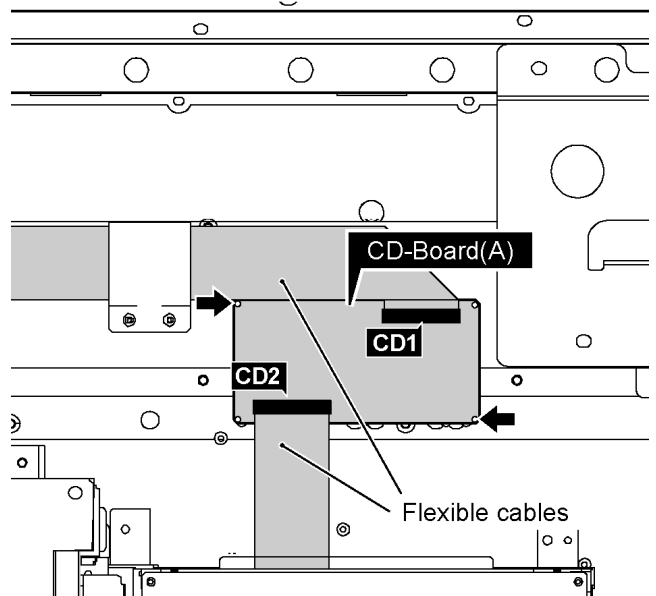


6.42. Removal of CD-Board



6.42.1. Removal of CD-Board (A)

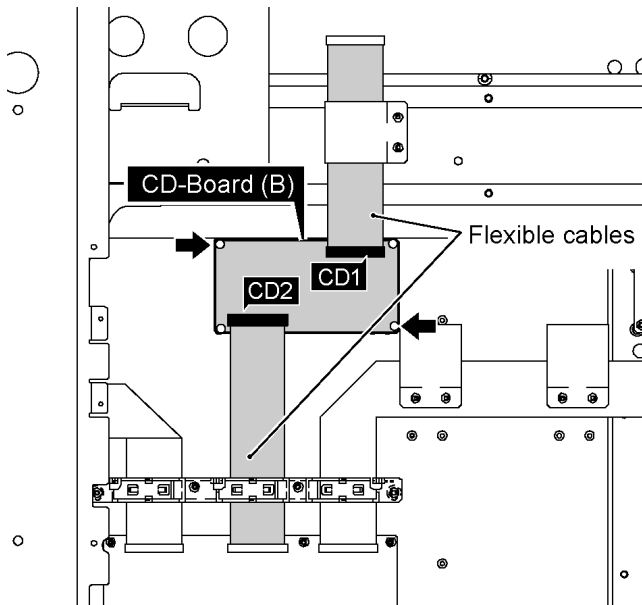
1. Remove the flexible cables from the connectors (CD1, CD2).
2. Remove 2 screws and then remove CD-Board (A).



6.42.2. Removal of CD-Board (B)

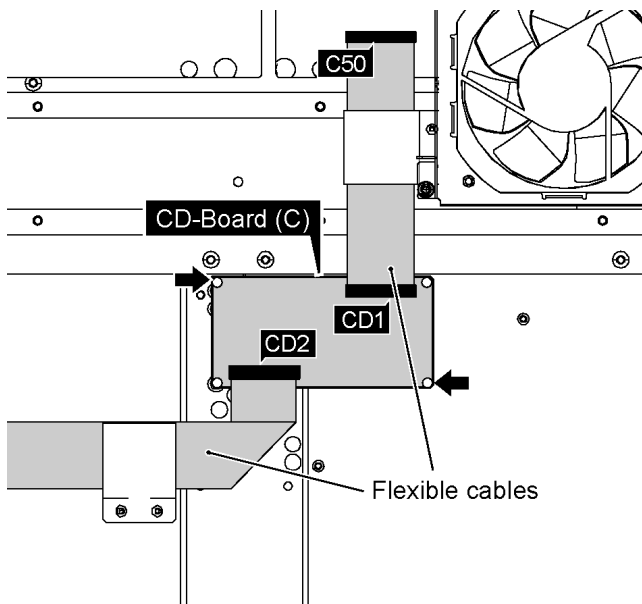
1. Remove the flexible cables from the connectors (CD1, CD2).

2. Remove 2 screws and then remove CD-Board (B).



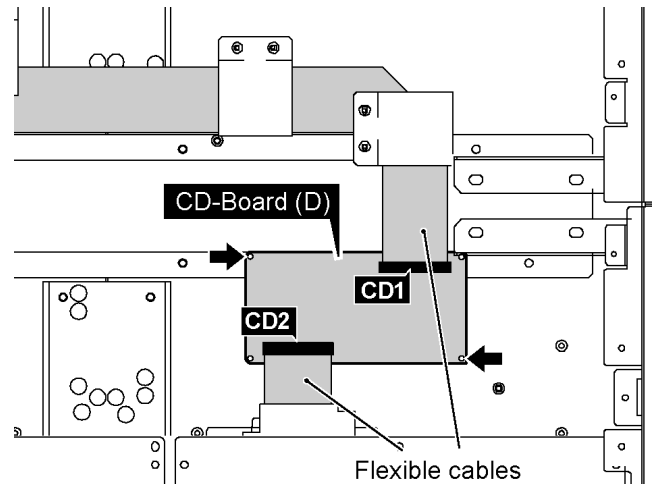
6.42.3. Removal of CD-Board (C)

1. Remove the flexible cables from the connectors (CD1, CD2).
2. Remove 2 screws and then remove CD-Board (C).



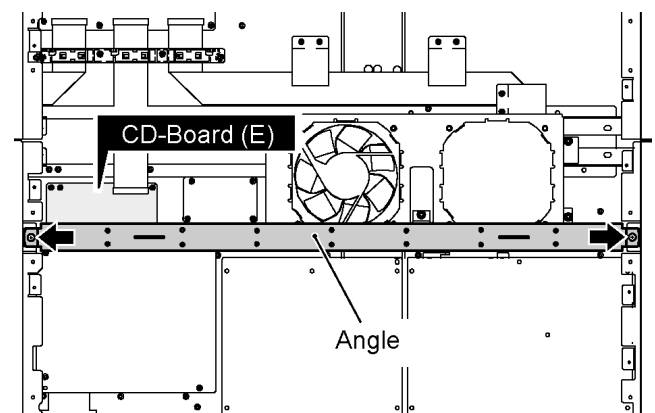
6.42.4. Removal of CD-Board (D)

1. Remove the Fan Block (H).
(Refer to Removal of the Fan)
2. Remove the flexible cables from the connectors (CD1, CD2).
3. Remove 2 screws and then remove CD-Board (D).

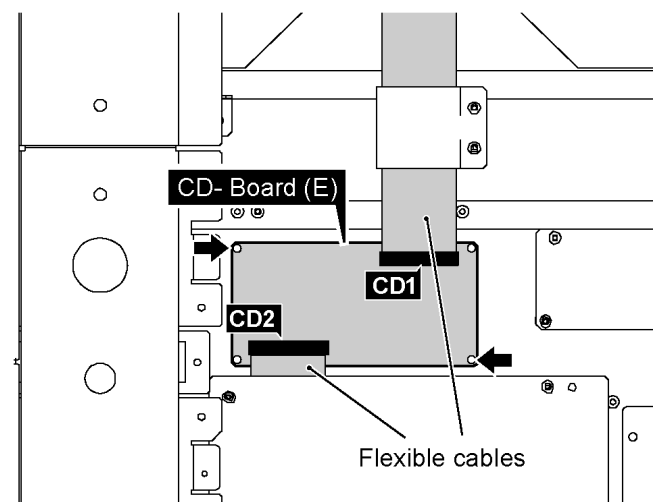


6.42.5. Removal of CD-Board (E)

1. Remove 2 screws and then remove the Angle.

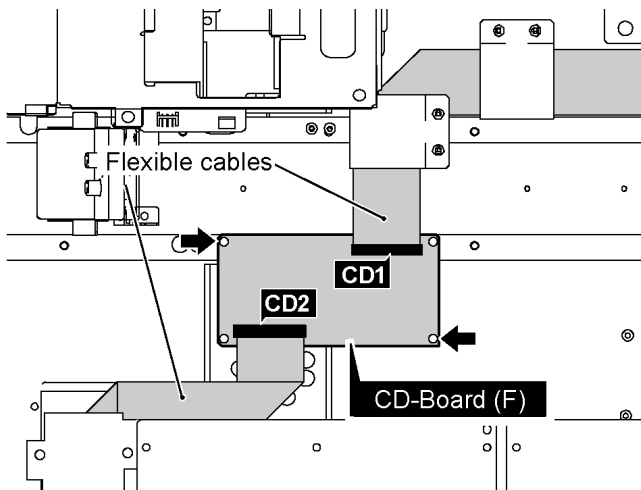


2. Remove the flexible cables from the connectors (CD1, CD2).
3. Remove 2 screws and then remove CD-Board (E).



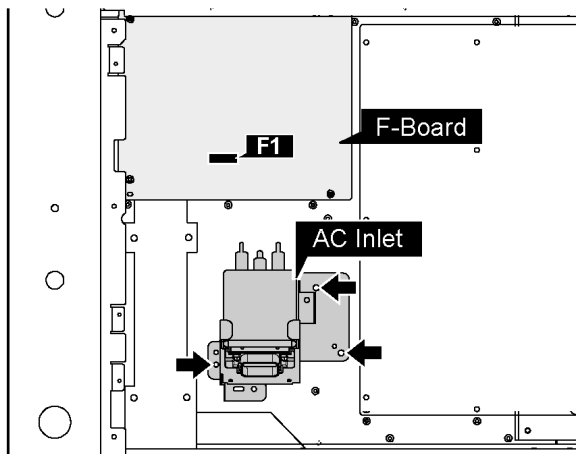
6.42.6. Removal of CD-Board (F)

1. Remove the Fan Block (F).
(Refer to Removal of Fan)
2. Remove the flexible cables from the connectors (CD1, CD2).
3. Remove 2 screws and then remove CD-Board (F).



6.43. Removal of AC Inlet

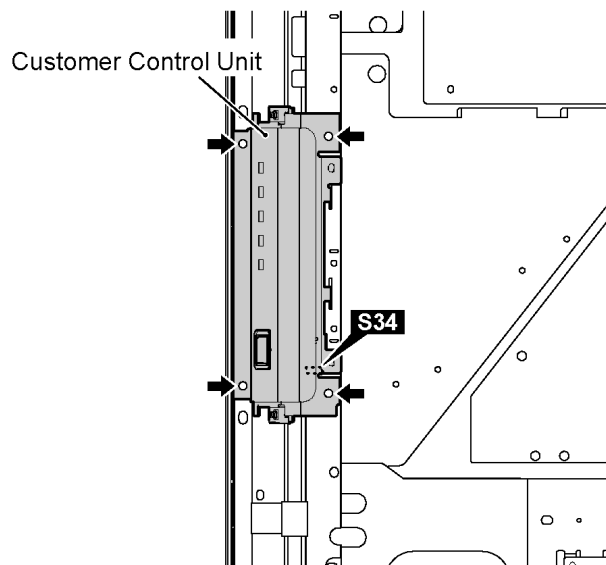
1. Disconnect a connector (F1).
2. Remove 3 screws and then remove the AC-Inlet.



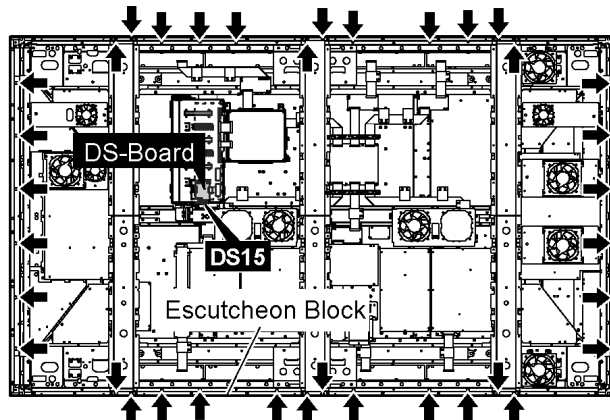
6.44. Removal of Escutcheon and Front Glass

6.44.1. Removal of Front Glass

1. Remove 4 screws and then remove the Customer Control Unit.
2. Disconnect a connector (S34).

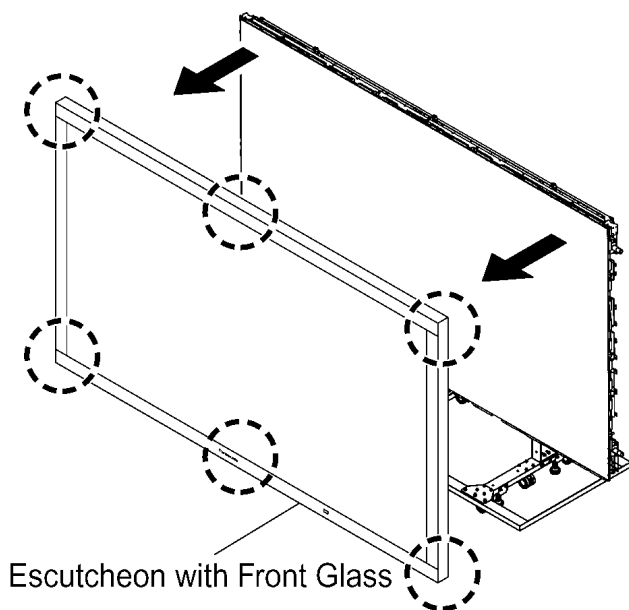


3. Disconnect a connector (DS15).
4. Remove 36 screws and then remove the Escutcheon with front glass.

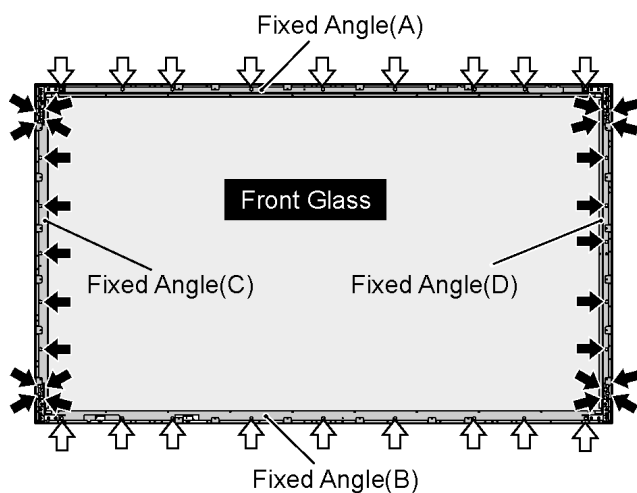


(Note)

- When removing the Escutcheon with Front Glass, take care not to damage the flexible cable of the Plasma Panel circumference.

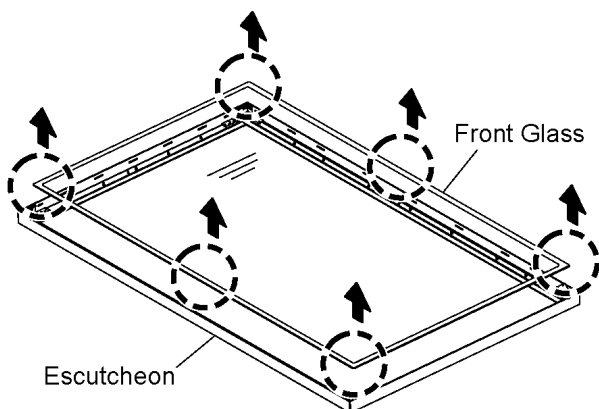


5. Remove 26 screws (▲) (left and right side) and 18 screws (⬆) (top and bottom side) and then remove the Fixed Angles (A), (B), (C), (D).
6. Remove the Front Glass.



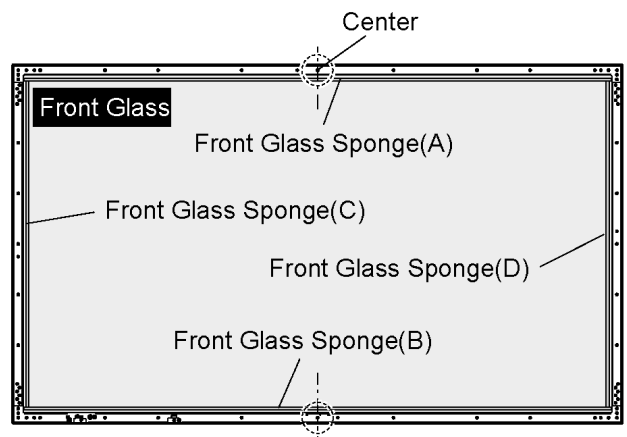
(Note)

- When removing the Front Glass from Escutcheon, there is a risk of the glass center bending damage.
- Be sure to lift the instruction six positions of the figure, when remove the Front Glass.



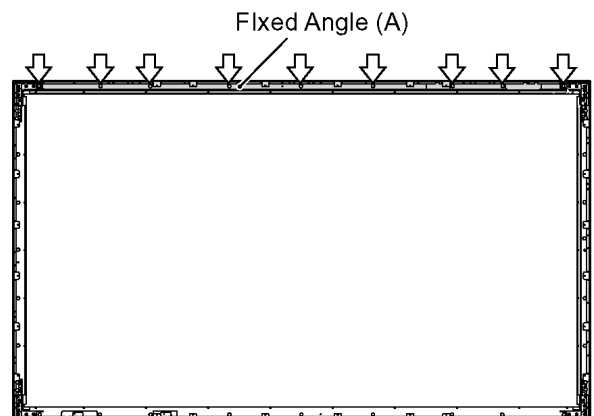
Note: When replacing the Front Glass

- The sponges for the Front Glass cannot be recycled.
- When replacing the Front Glass, use the new sponges.

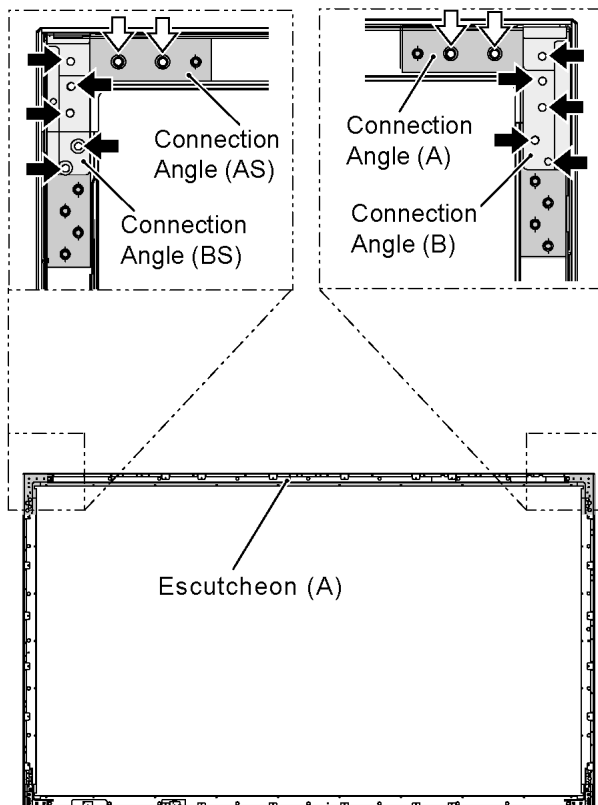


6.44.2. Removal of Escutcheon (A)

1. Remove 9 screws (⬆) and then remove the Fixed Angles (A).

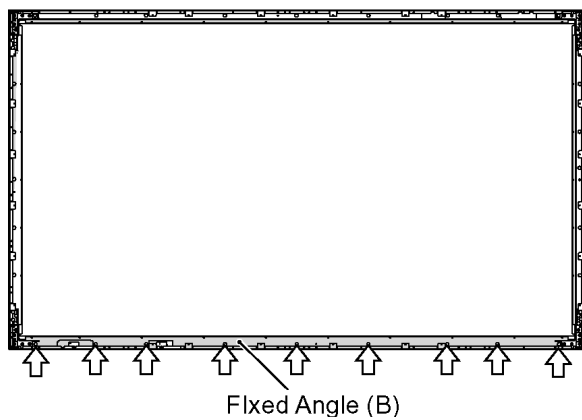


2. Remove each 5 screws (▲).
3. Remove each 2 screws (⬆) and then remove the Connection Angles (A), (AS), (B), (BS).

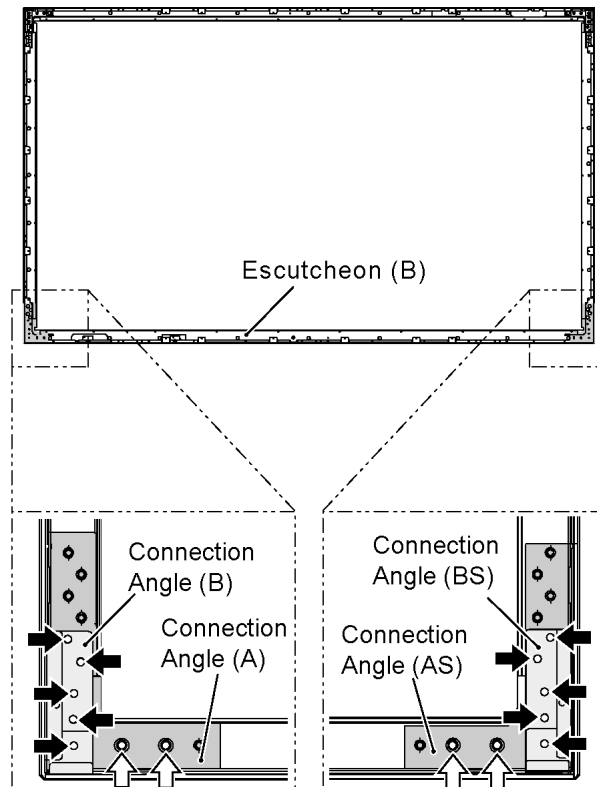


6.44.3. Removal of Escutcheon (B)

1. Remove 9 screws (⬆) and then remove the fixed Angles (B).

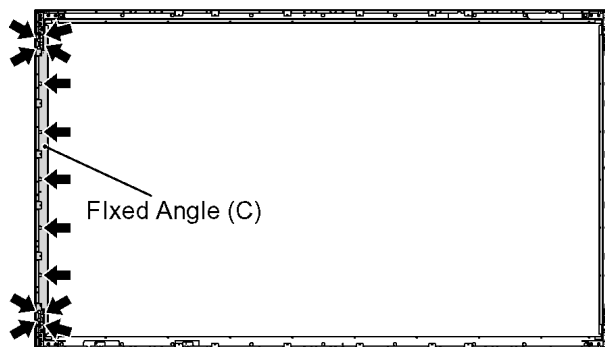


2. Remove each 5 screws (⬆).
3. Remove each 2 screws (⬆) and then remove the Connection Angles (A), (AS), (B), (BS).

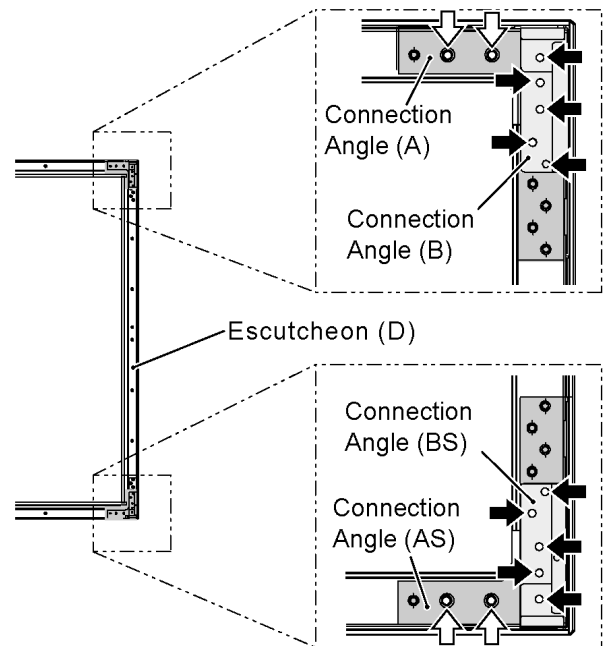
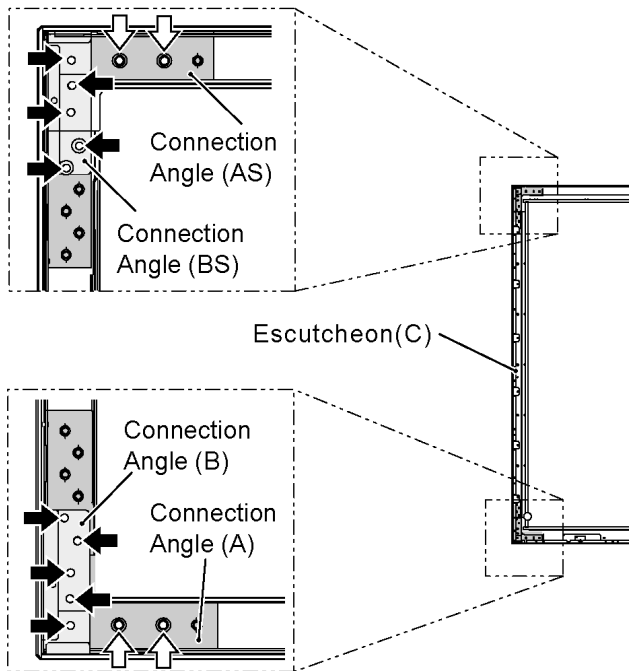


6.44.4. Removal of Escutcheon (C)

1. Remove 13 screws and then remove the fixed Angles (C).

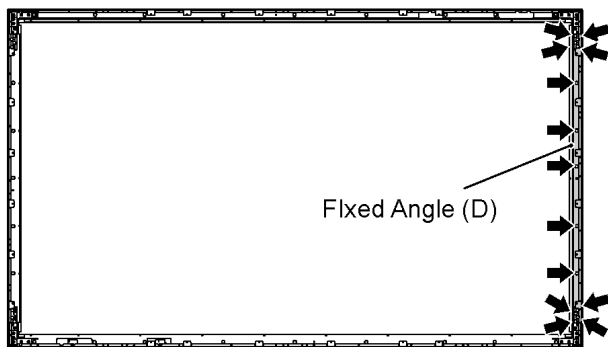


2. Remove each 5 screws (⬆)
3. Remove each 2 screws (⬆) and then remove the Connection Angles (A), (AS), (B), (BS).



6.44.5. Removal of Escutcheon (D)

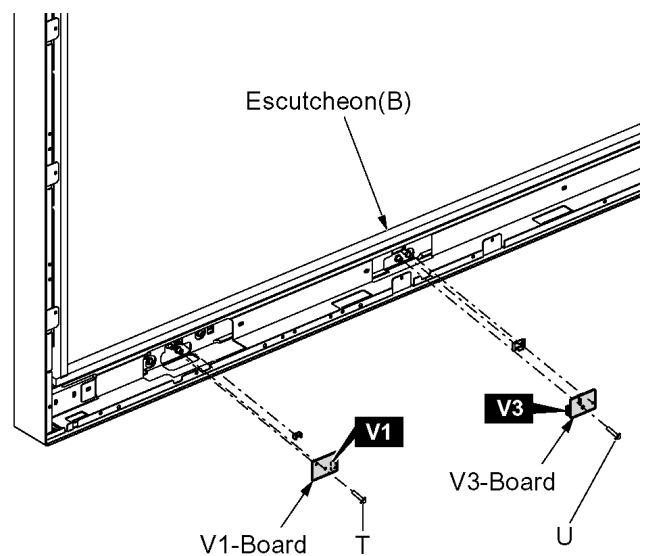
1. Remove 13 screws and then remove the fixed Angles (D).



2. Remove each 5 screws (↑).
3. Remove each 2 screws (⇧) and then remove the Connection Angles (A), (AS), (B), (BS).

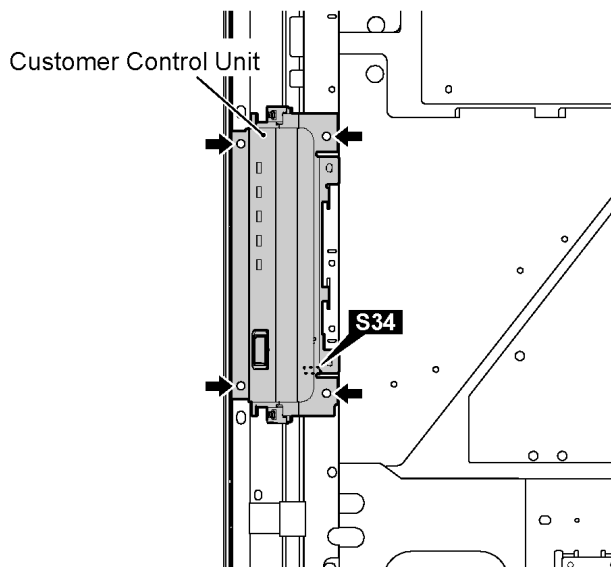
6.45. Removal of V1-Board and V3-Board

1. Remove 1 screw (T) and then remove V1-Board.
2. Remove 1 screw (U) and then remove V3-Board.

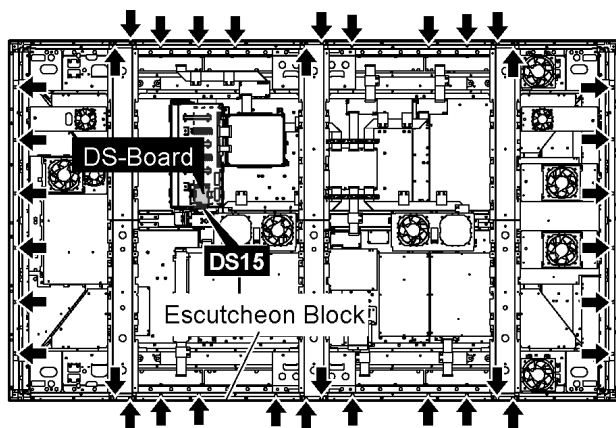


7 Removal of Plasma Panel

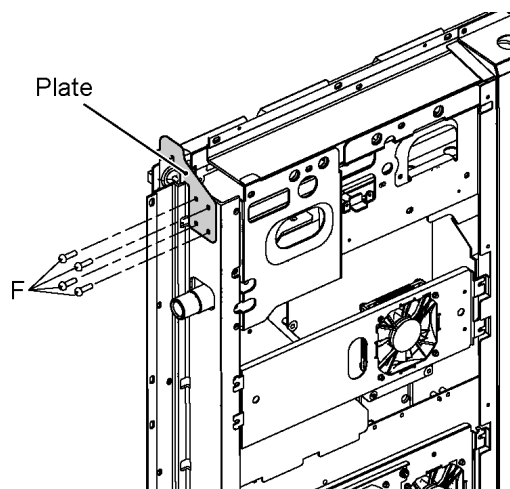
1. Remove the Rear Covers.
(Refer to Removal of Rear Cover.)
2. Remove 4 screws and then remove the Customer Control Unit.
3. Disconnect a connector (S34).



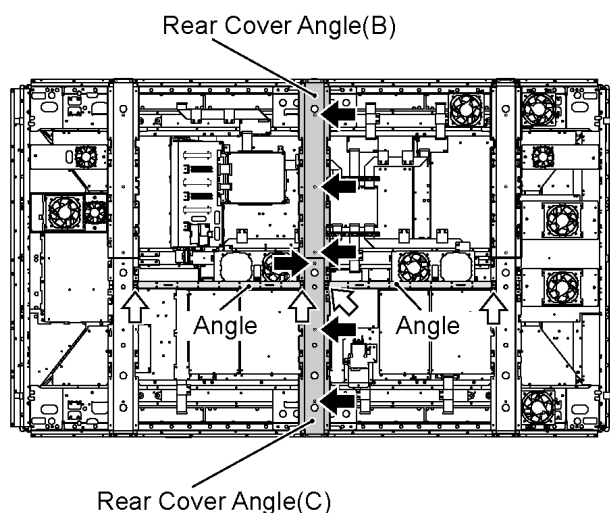
4. Disconnect a connector (DS15).
5. Remove 36 screws and then remove Escuchon with front glass.
(Refer to Removal of Escutcheon.)



6. Remove 4 screws (F) of the Plate.

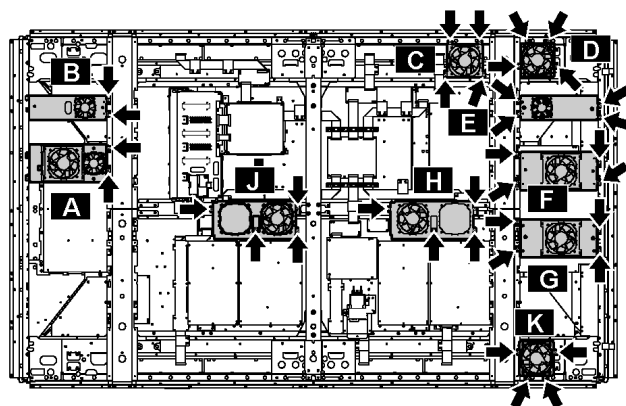


7. Remove 4 screws (⇩) and then remove the Angles.
8. Remove each 3 screws (⇩) and then remove the Rear Cover Angle (B), (C).



9. Disconnect the each Fan relay connectors.

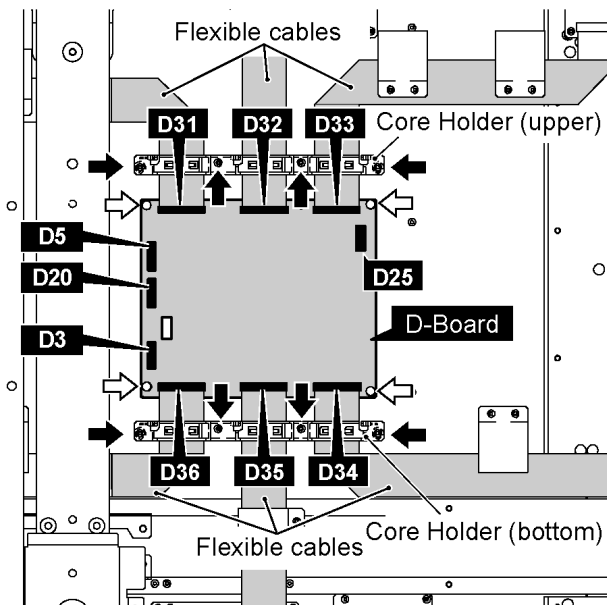
- Remove each 2 screws and then remove the Fan Blocks (A), (B).
- Remove each 4 screws and then remove the Fan Blocks (C), (D), (E), (F), (G), (H), (J), (K).



10. Disconnect the connectors (D3, D5, D20, D25).
11. Remove the flexible cables from the connectors (D31, D32, D33, D34, D35, D36).
12. Remove each 4 screws (⇩) and then remove the Core

Holder (upper), (bottom).

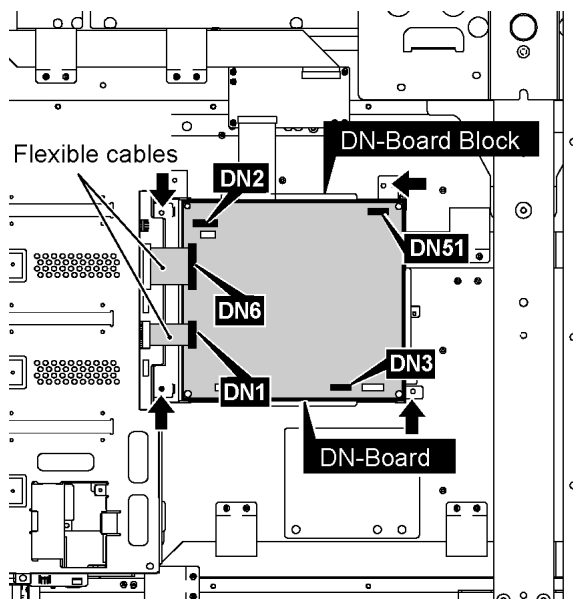
13. Remove 4 screws (⇩) and then remove D-Board.



14. Remove the flexible cables from the connectors (DN1, DN6).

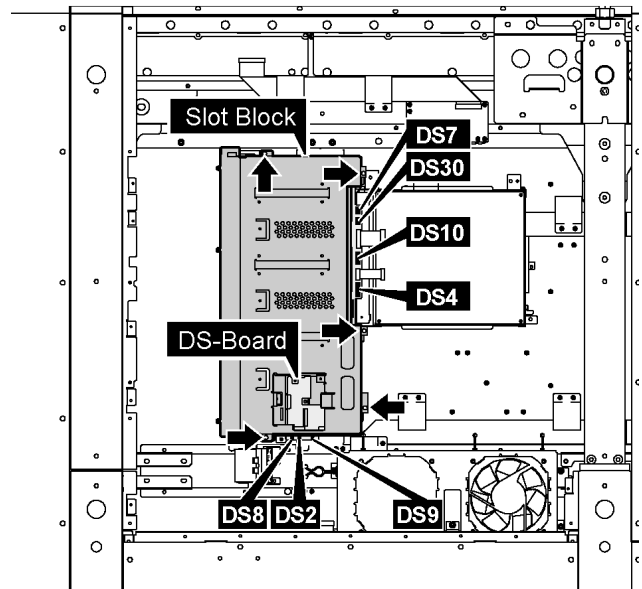
15. Disconnect the connectors (DN2, DN3, DN51).

16. Remove 4 screws and then remove DN-Board Block.



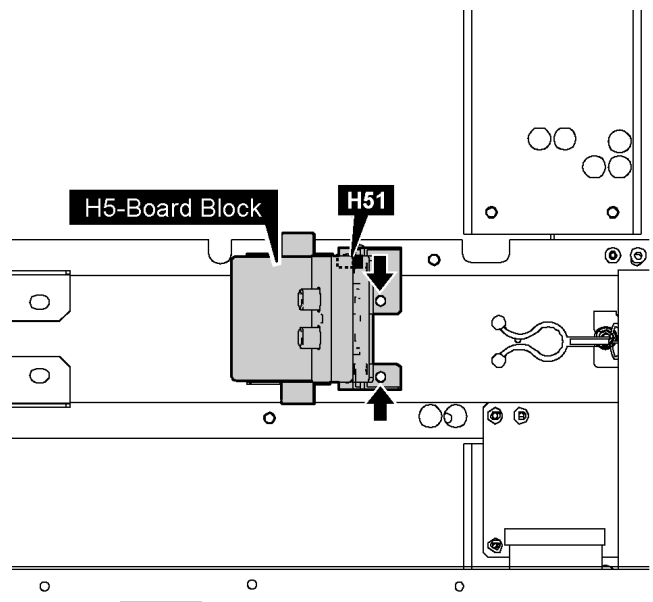
17. Disconnect the connectors (DS2, DS4, DS7, DS8, DS10, DS15, DS30).

18. Remove 5 screws and then remove the Slot Block.



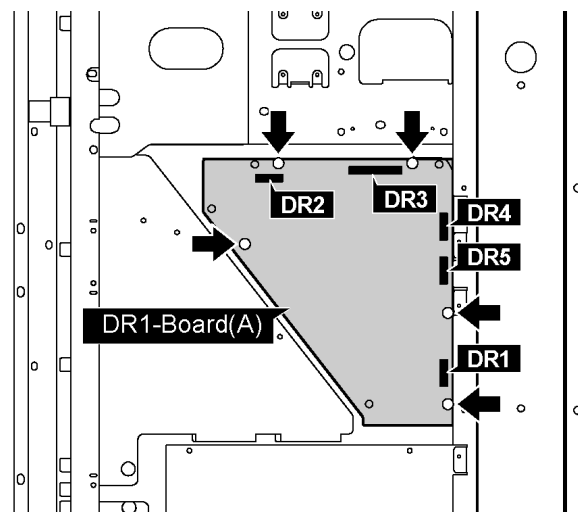
19. Remove 2 screws and then remove H5-Board Block.

20. Disconnect a connector (H51).



21. Disconnect the connectors (DR1, DR2, DR3, DR4, DR5).

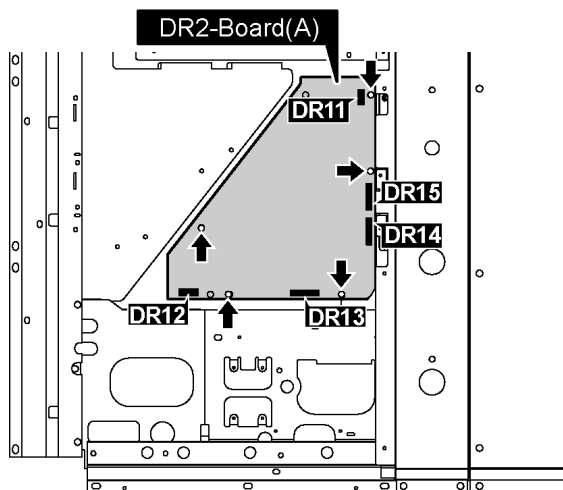
22. Remove 5 screws and then remove DR1-Board (A).



23. Disconnect the connectors (DR11, DR12, DR13, DR14,

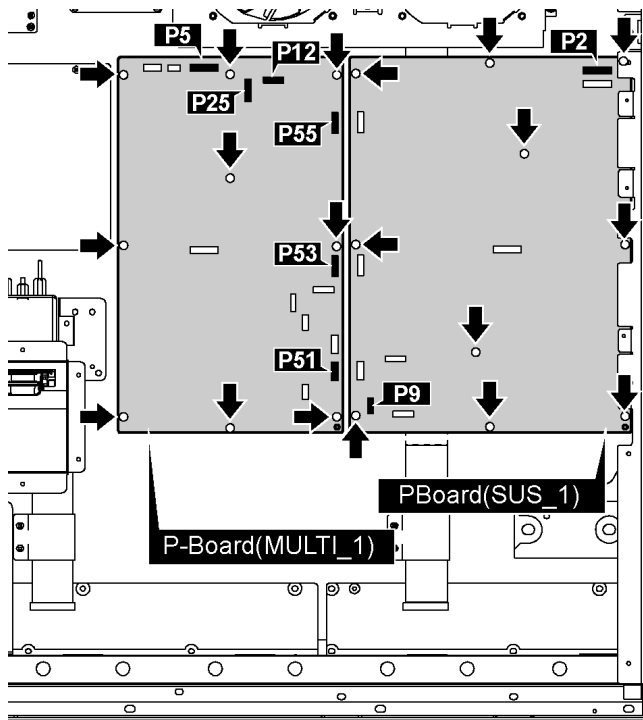
DR15).

24. Remove 5 screws and then remove DR2-Board (A).



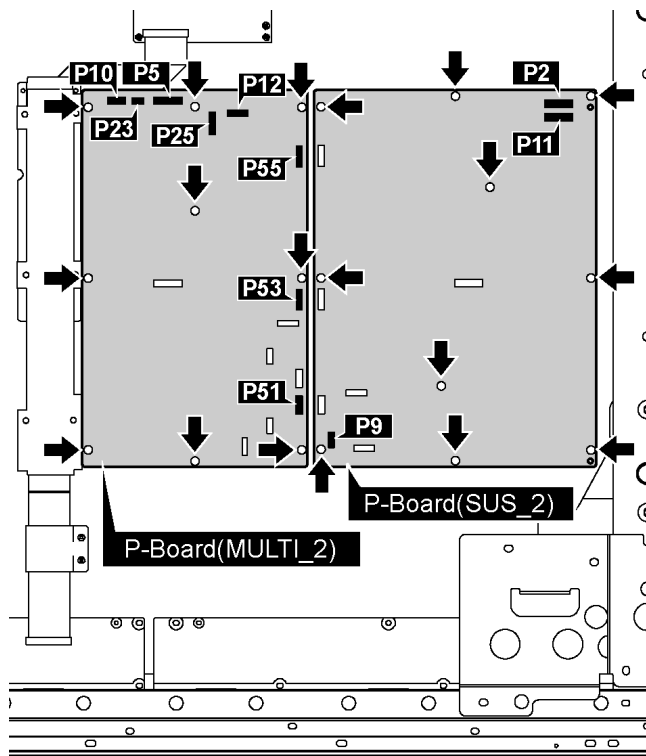
25. Disconnect the connectors (P2, P5, P9, P12, P25, P51, P53, P55).

26. Remove 19 screws and then remove P-Board (MULT_1), (SUS_1).



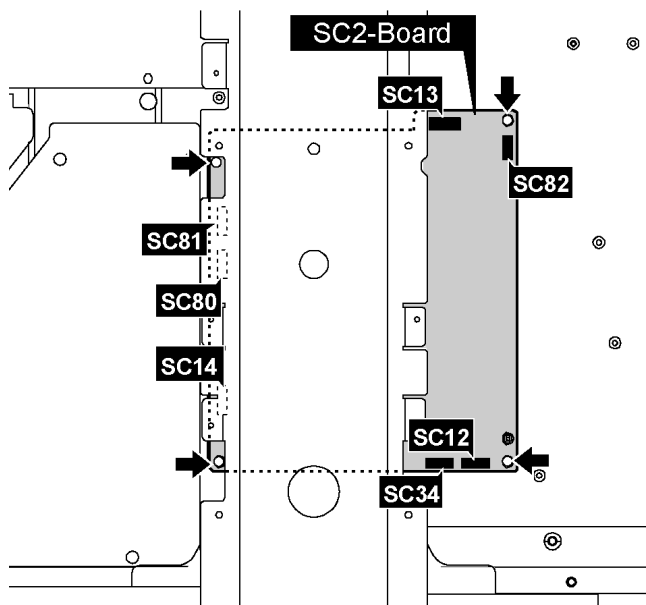
27. Disconnect the connectors (P2, P5, P9, P10, P11, P12, P23, P25, P51, P53, P55).

28. Remove 19 screws and then remove P-Board (MULT_2), (SUS_2).



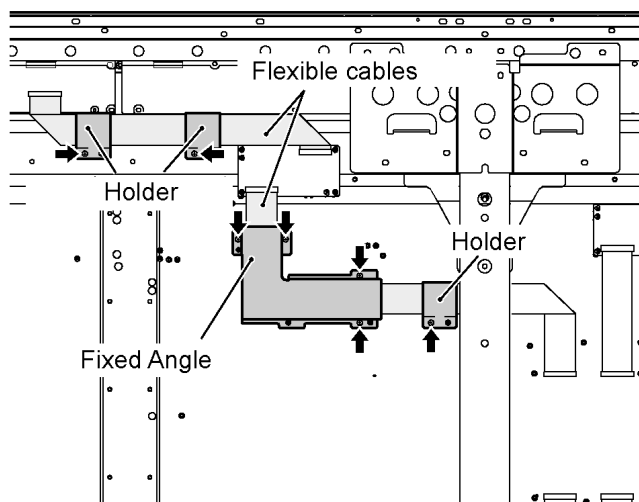
29. Disconnect the connectors (SC12, SC13, SC14, SC34, SC80, SC81, SC82).

30. Remove 4 screws and then remove SC2-Board.



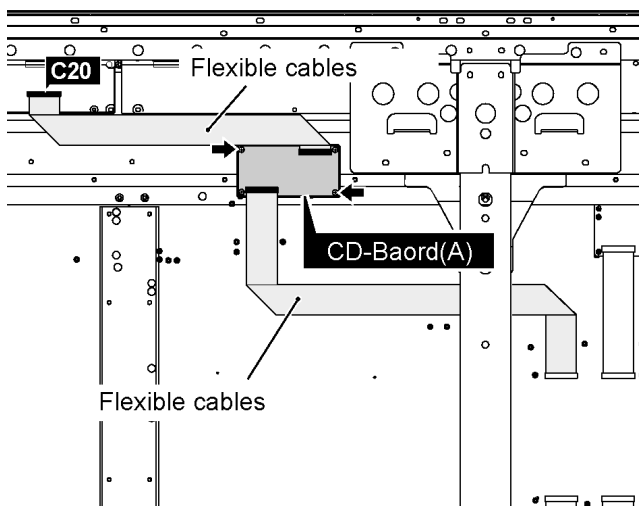
31. Remove each 1 screw and then remove the Flexible Holders (3 places).

32. Remove 4 screws and then remove the Fixed Angle (shape of L).



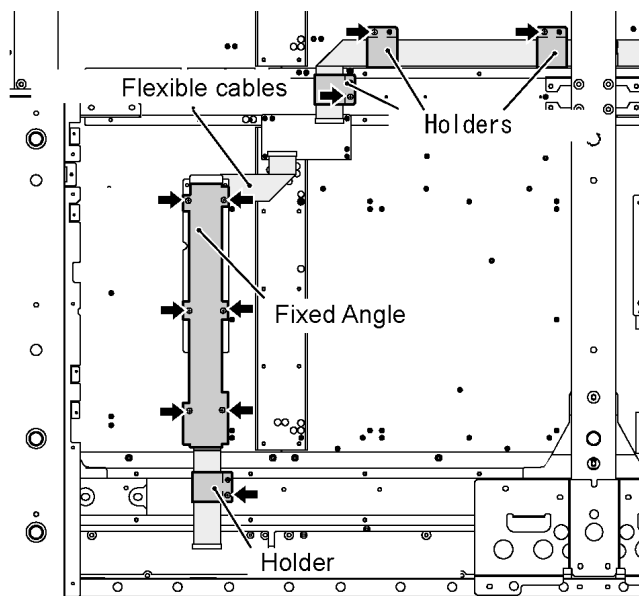
33. Disconnect a connector (C20) connected with C2-Board.

34. Remove 2 screws and then remove CD-Board (A).



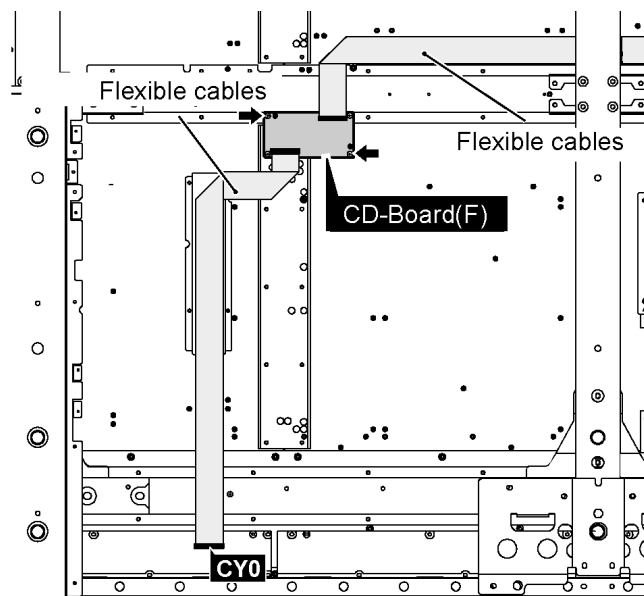
35. Remove each 1 screw of the Flexible Holder and then remove the Flexible Holders (4 places).

36. Remove 6 screws and then remove the Fixed Angle.



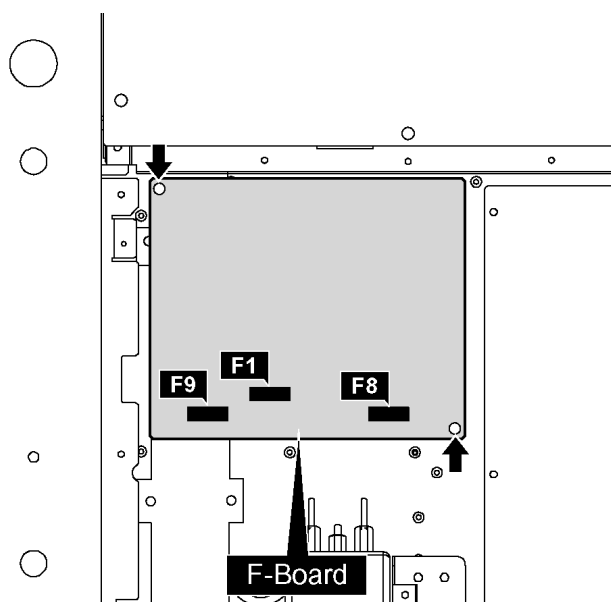
37. Disconnect a connector (CY0) connected with CY-Board.

38. Remove 2 screws and then remove CD-Board (F).



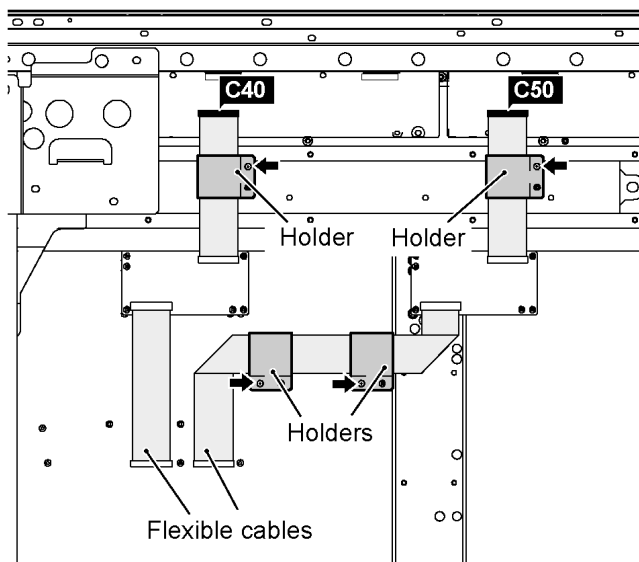
39. Disconnect the connectors (F1, F8, F9).

40. Remove 2 screws and then remove F-Board.

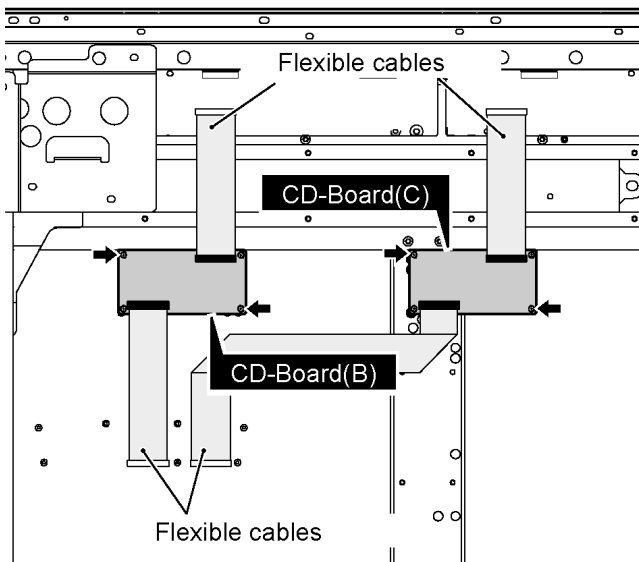


41. Remove each 1 screw and then remove the Flexible Holders (4 places).

42. Remove the flexible cables from the connectors (C40, C50).

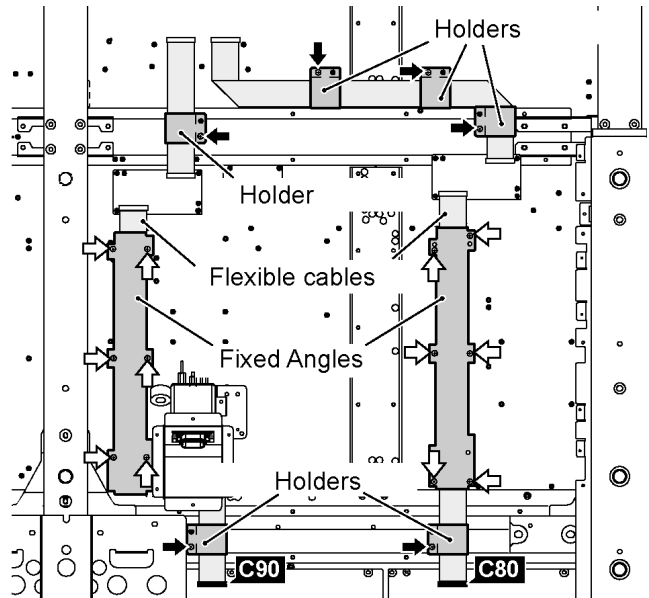


43. Remove 4 screws and then remove CD-Board (B), (C).



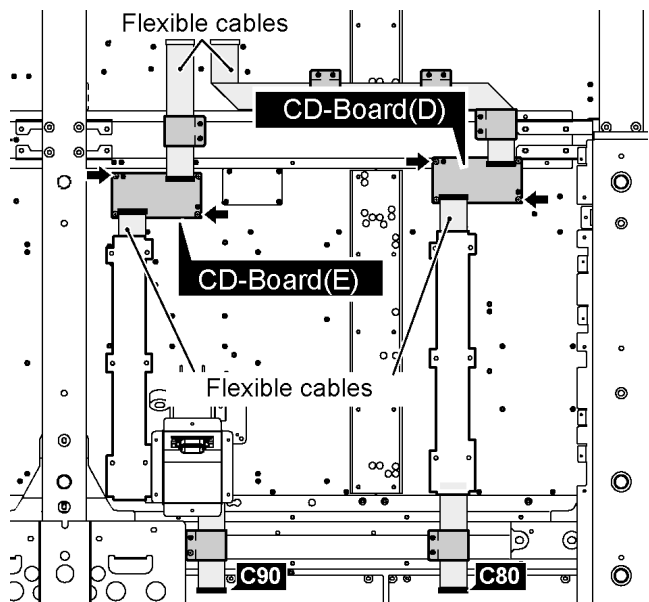
44. Remove each 1 screw (↑) and then remove the Flexible Holders (6 places).

45. Remove each 6 screws (⇩) and then remove the Fixed Angles (2 places).



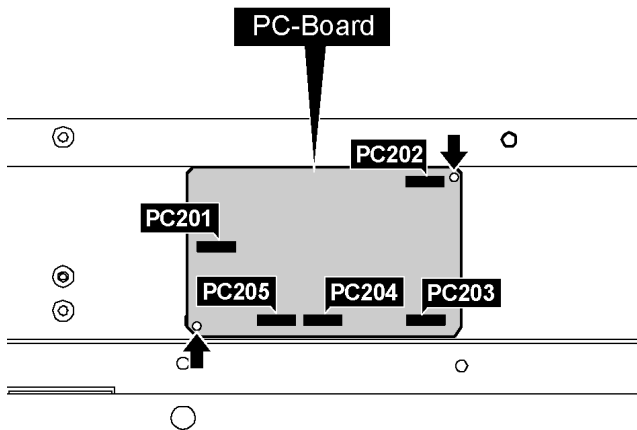
46. Remove the flexible cables from the connectors (C80, C90).

47. Remove 4 screws and then remove CD-Board (D), (E).



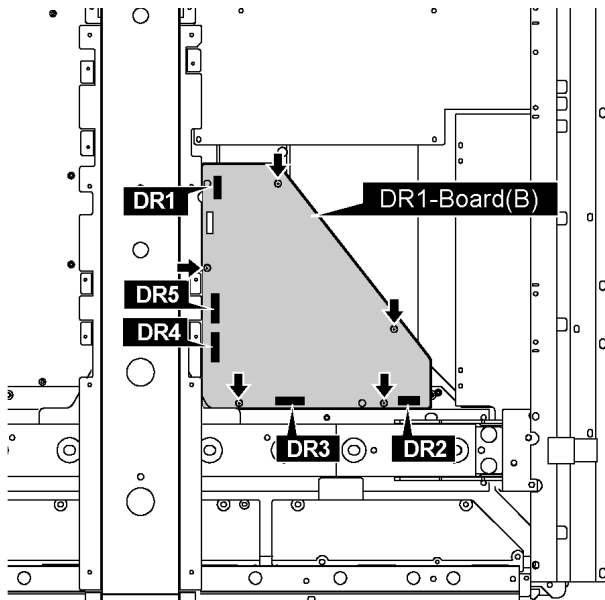
48. Remove the connectors (PC201, PC202, PC203, PC204, PC205).

49. Remove 2 screws and then remove PC-Board.



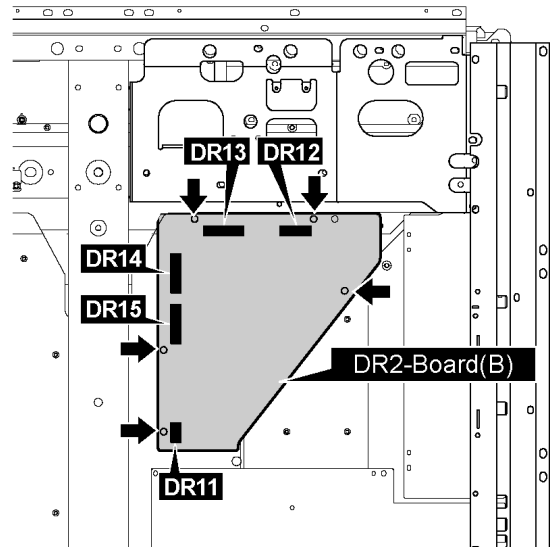
50. Remove the connectors (DR1, DR2, DR3, DR4, DR5).

51. Remove 5 screws and then remove DR1-Board (B).

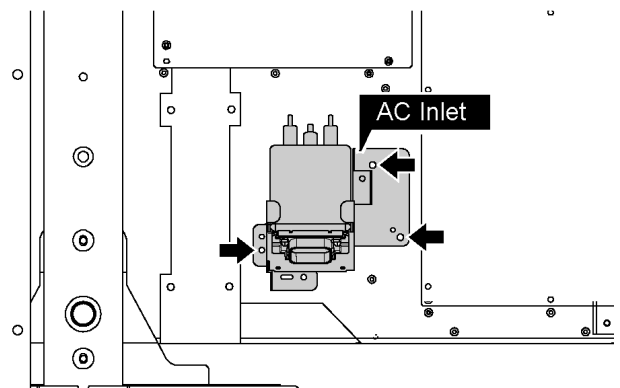


52. Remove the connectors (DR11, DR12, DR13, DR14, DR15).

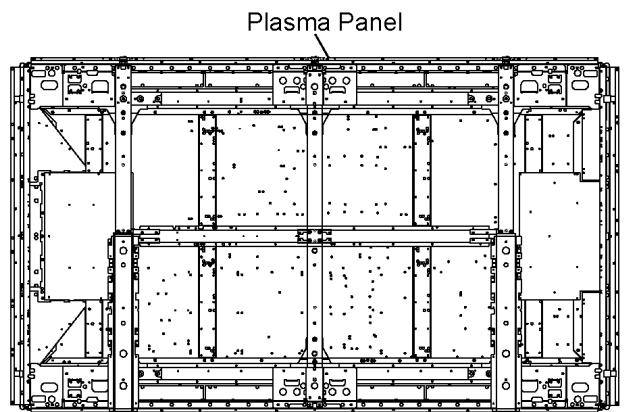
53. Remove 5 screws and then remove DR2-Board (B).



54. Remove 3 screws and then remove the AC-Inlet.



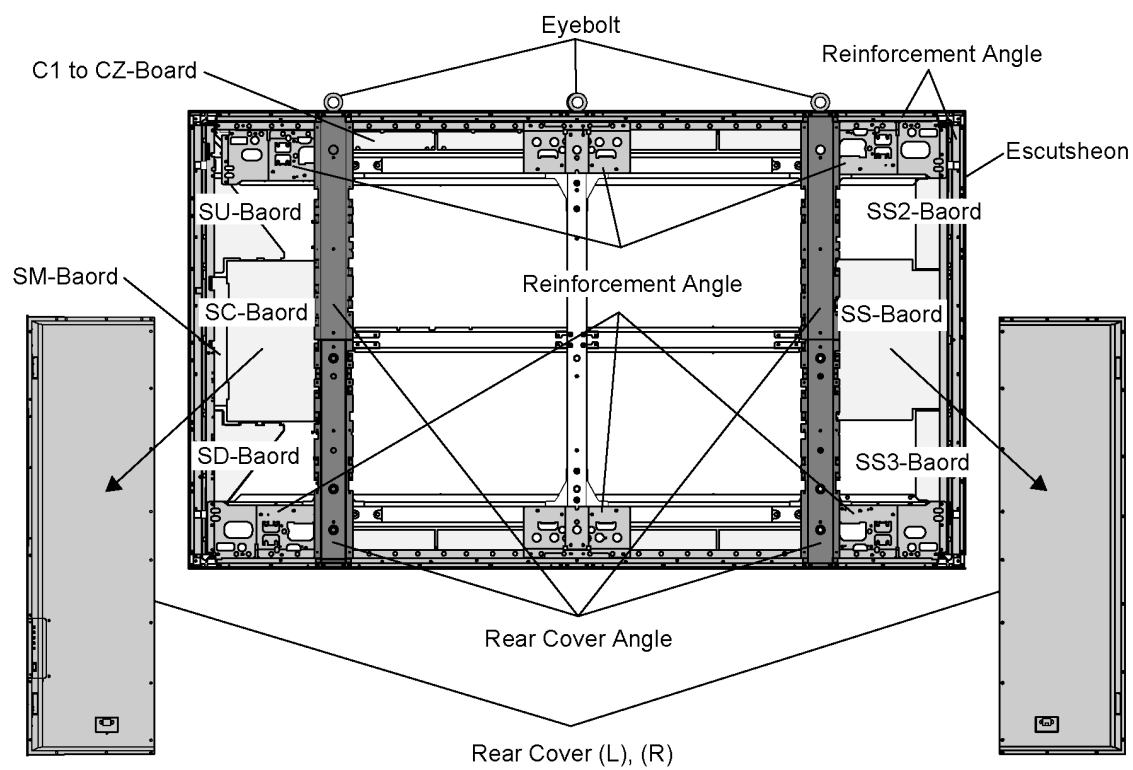
55. Remove the Plasma Panel.



(Note)

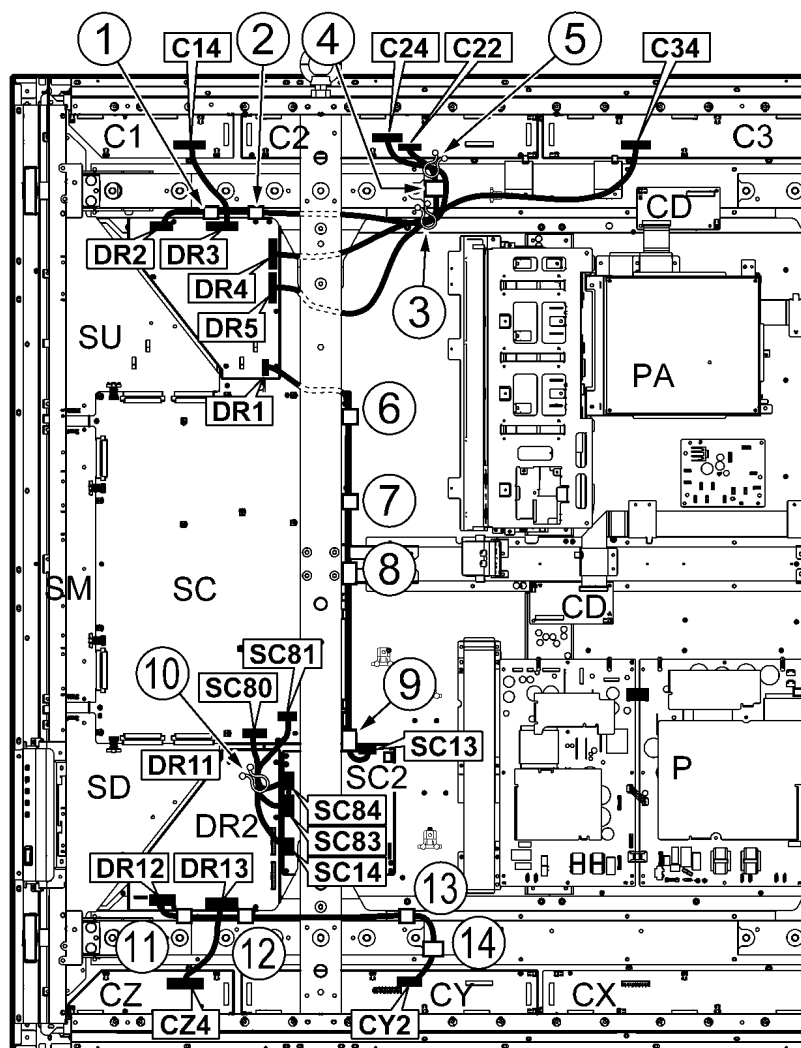
- When replacing the Plasma Panel, use a hanging device (machine) such as cranes, because the Plasma Panel is too heavy.

Structure of replacement Plasma Panel (Spare Parts)



8 Location Lead Wiring

8.1. Lead Wiring (1)



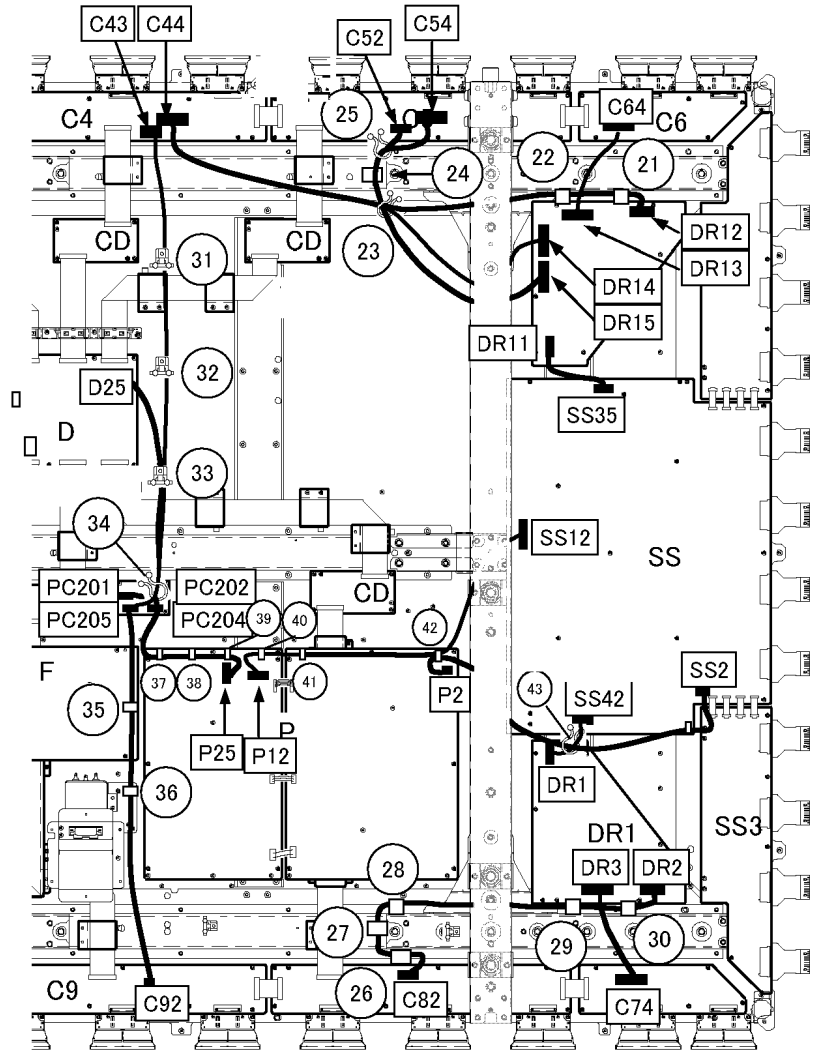
Clamp position

CONNECTOR NUMBER	1	2	3	4	5	6	7	8	9	
DR3 - C14										
DR2 - C22	○	○	○	○	○					
DR4 - C24			○		○					
DR5 - C34			○							
DR1 - SC13						○	○	○	○	

CONNECTOR NUMBER	10	11	12	13	14					
DR11 - SC14	○									
SC80 - SC83	○									
SC81 - SC84	○									
DR13 - CZ4										
DR12 - CY2		○	○	○	○					

■ : Connector position

8.2. Lead Wiring (2)



Clamp position

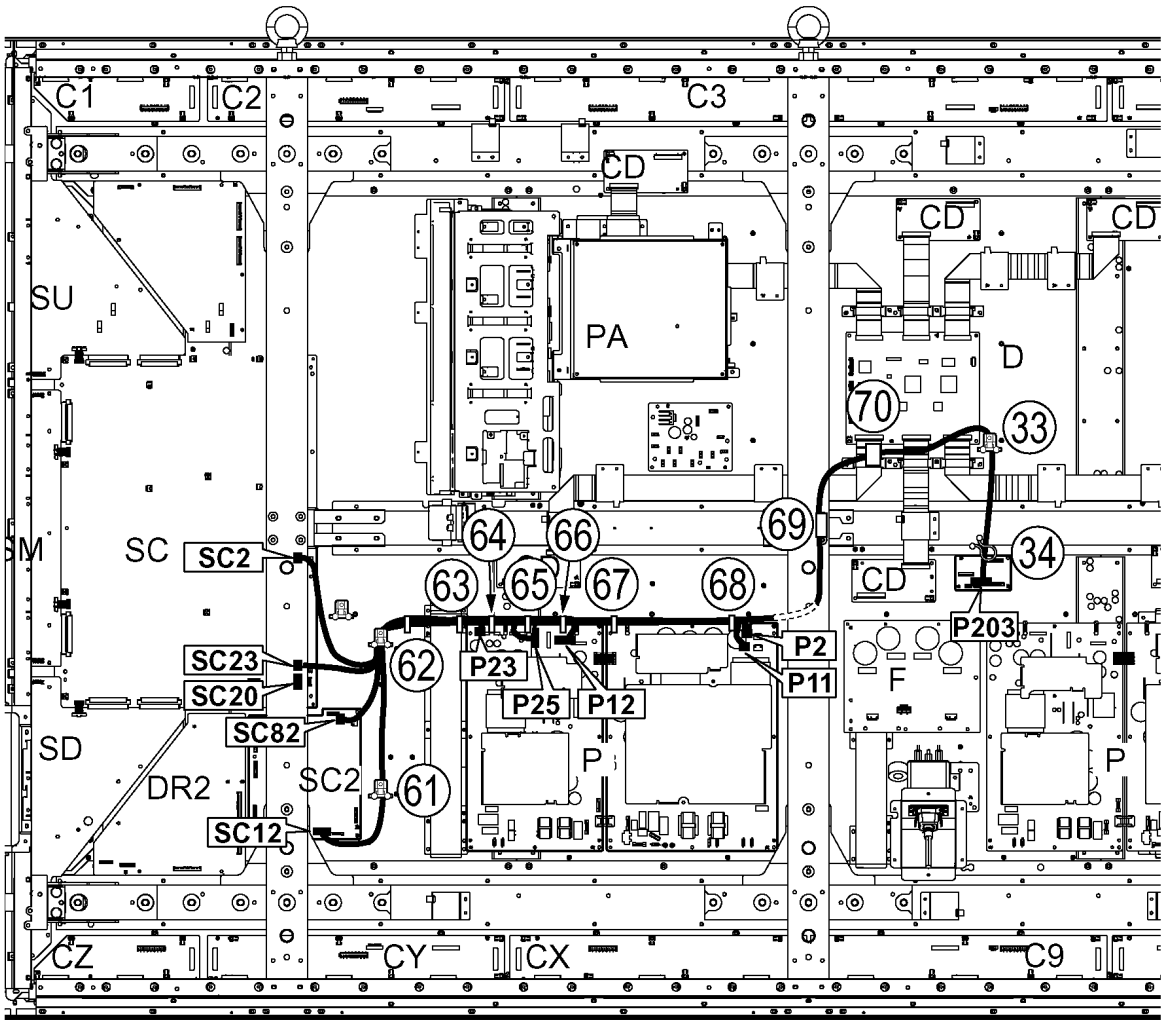
CONNECTOR NUMBER	21	22	23	24	25	26	27	28	29	30
DR13 - C64										
DR12 - C52	○	○	○	○	○					
DR14 - C44			○							
DR15 - C54			○		○					
DR11 - SS35										
DR3 - C74										
DR2 - C82						○	○	○	○	○

CONNECTOR NUMBER	31	32	33	34	35	36	37	38	39	
C43 - PC204	○	○	○	○						
D25 - PC201			○	○						
PC205 - C92					○	○				
PC202 - P25				○			○	○	○	

CONNECTOR NUMBER	40	41	42	43						
P12 - SS12	○	○	○							
P2 - SS2			○	○						
DR1 - SS42										

■ : Connector position

8.3. Lead Wiring (3)

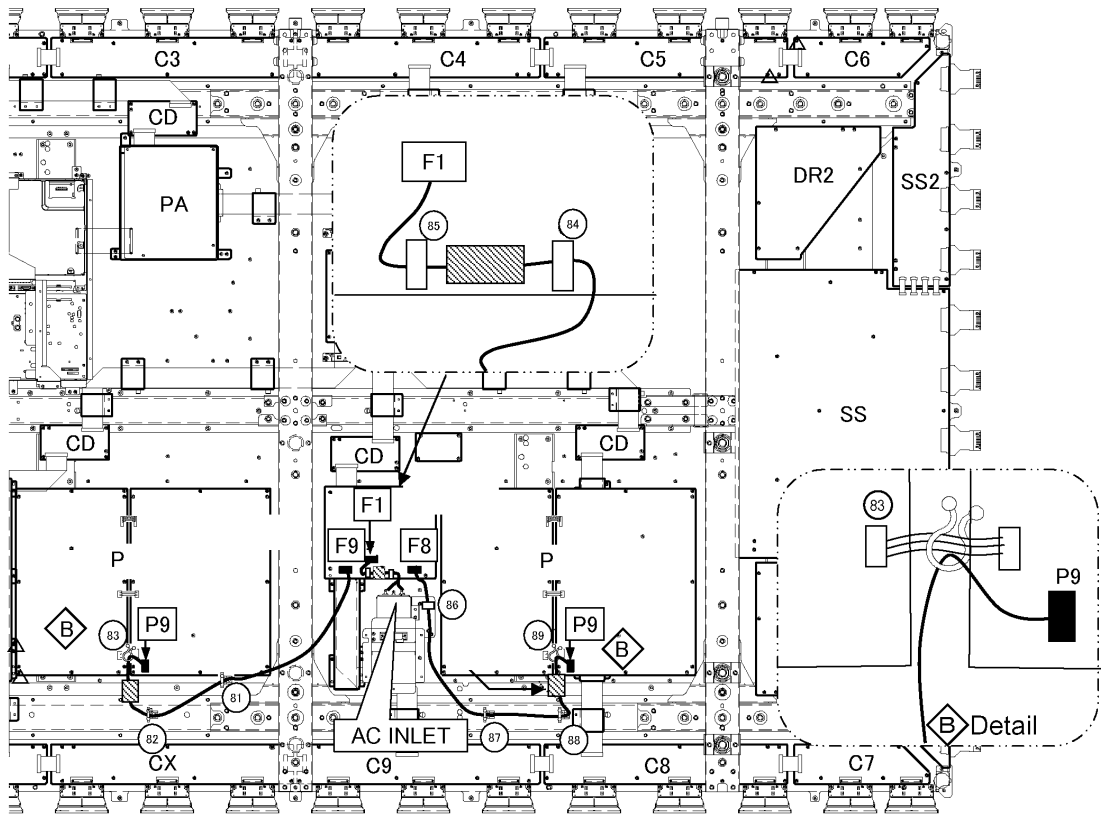


Clamp position

CONNECTOR NUMBER	61	62	63	64	65	66	67	68	69	70	33	34
SC12 - P12	○	○	○	○	○	○						
SC82 - P11		○	○	○	○	○	○	○				
SC23 - P2		○	○									
SC2 - P2		○	○	○	○	○	○	○				
P25 - PC203					○	○	○	○	○	○	○	○

■ : Connector position

8.4. Lead Wiring (4)

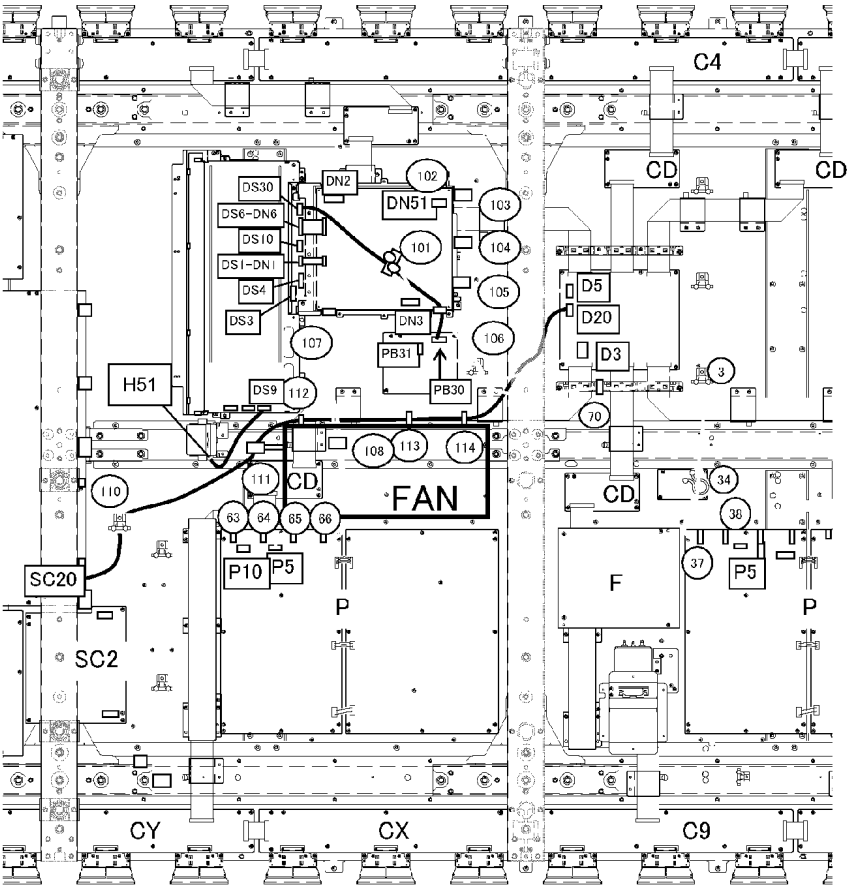


Clamp position

CONNECTOR NUMBER			81	82	83	84	85	86	87	88	89	
F9	-	P9	○	○	○							
AC	-	F1				○	○					
F8	-	P9						○	○	○	○	

■ : Connector position

8.5. Lead Wiring (5)



Clamp position

CONNECTOR NUMBER	101	102	103	104	105	106	107
DN51 - D5		○	○	○	○		
DN2 - D2	○					○	○
DS3 - DN3	○						
DS30 - PB30	○					○	

CONNECTOR NUMBER	108	109	66	65	64	63
DS10 - P10	○	○	○	○	○	
DS4 - P5	○	○	○	○		

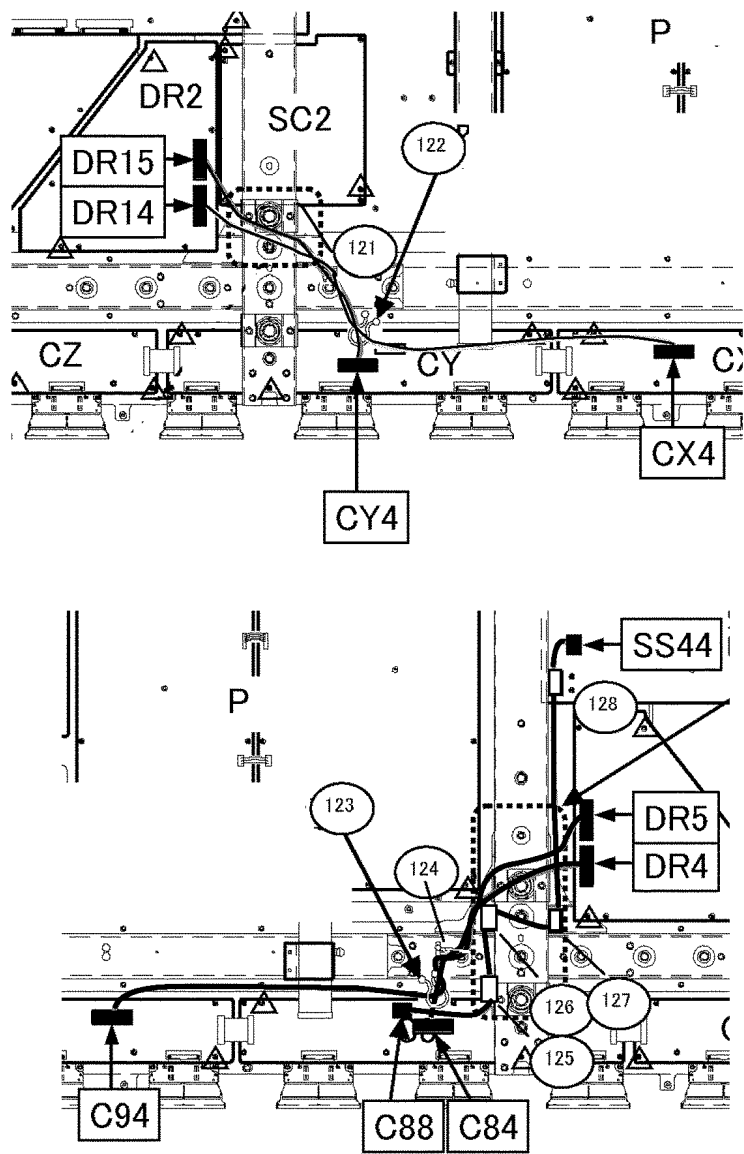
CONNECTOR NUMBER	107	70	33	34	37	38
PB31 - P5	○	○	○	○	○	○

CONNECTOR NUMBER	110	111	112	113	114
SC20 - D20	○	○	○	○	○

CONNECTOR NUMBER						
DS6 - DN6						
DS1 - DN1						
H51 - DS9						

 : Connector position

8.6. Lead Wiring (6)

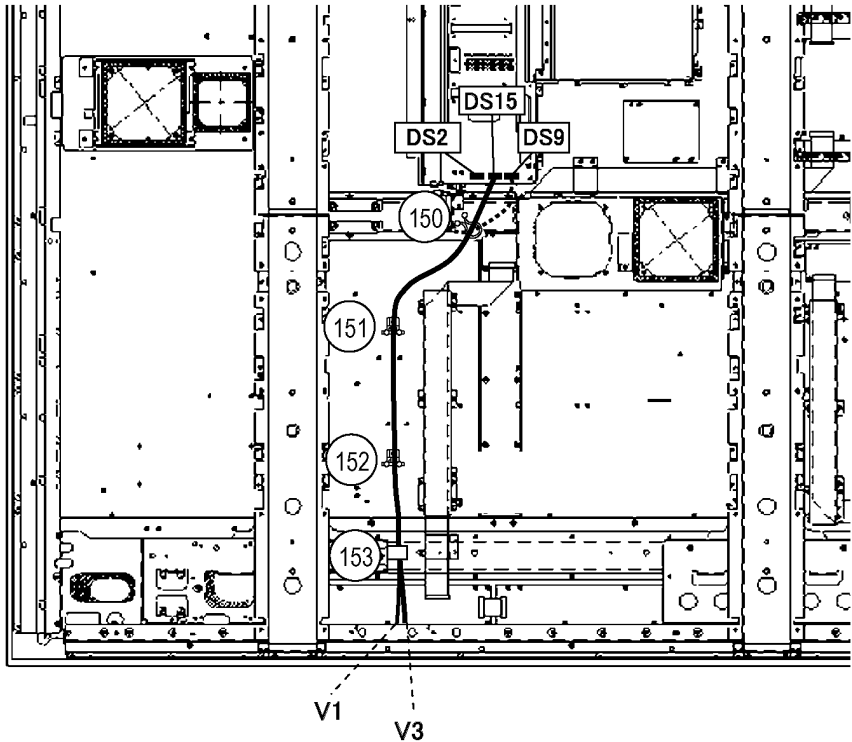


Clamp position

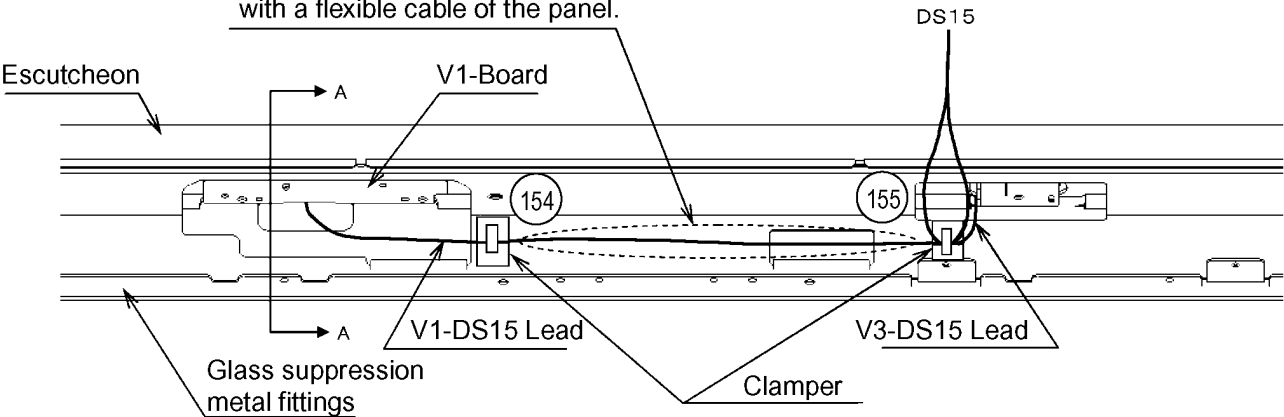
CONNECTOR NUMBER			121	122	123	124	125	126	127	128		
DR15	-	CY4	○	○								
DR14	-	CX4	○	○								
C84	-	DR5			○	○						
C94	-	DR4			○	○						
C88	-	SS44					○	○	○	○		

■ : Connector position

8.7. Lead Wiring (7)



Caution
Do not loosen to come in contact
with a flexible cable of the panel.

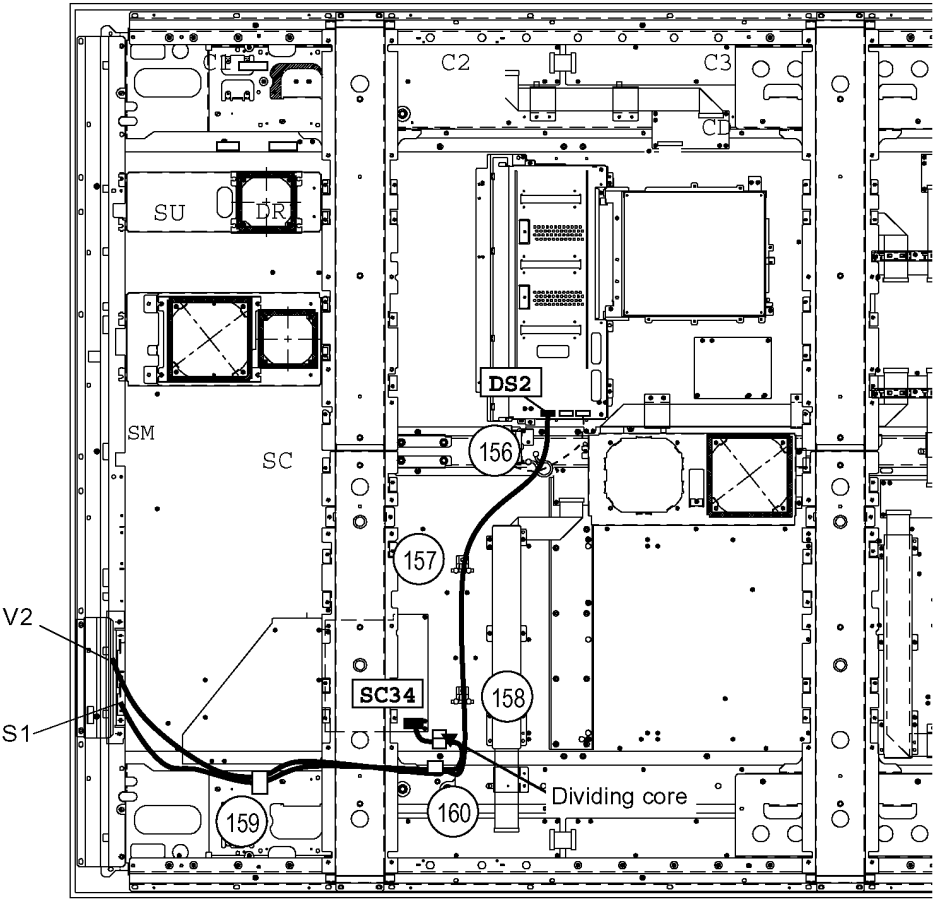


Clamp position

CONNECTOR NUMBER			150	151	152	153	154	155		
V1	—	DS15	○	○	○	○	○	○		
V3	—	DS15	○	○	○	○		○		

■ : Connector position

8.8. Lead Wiring (8)

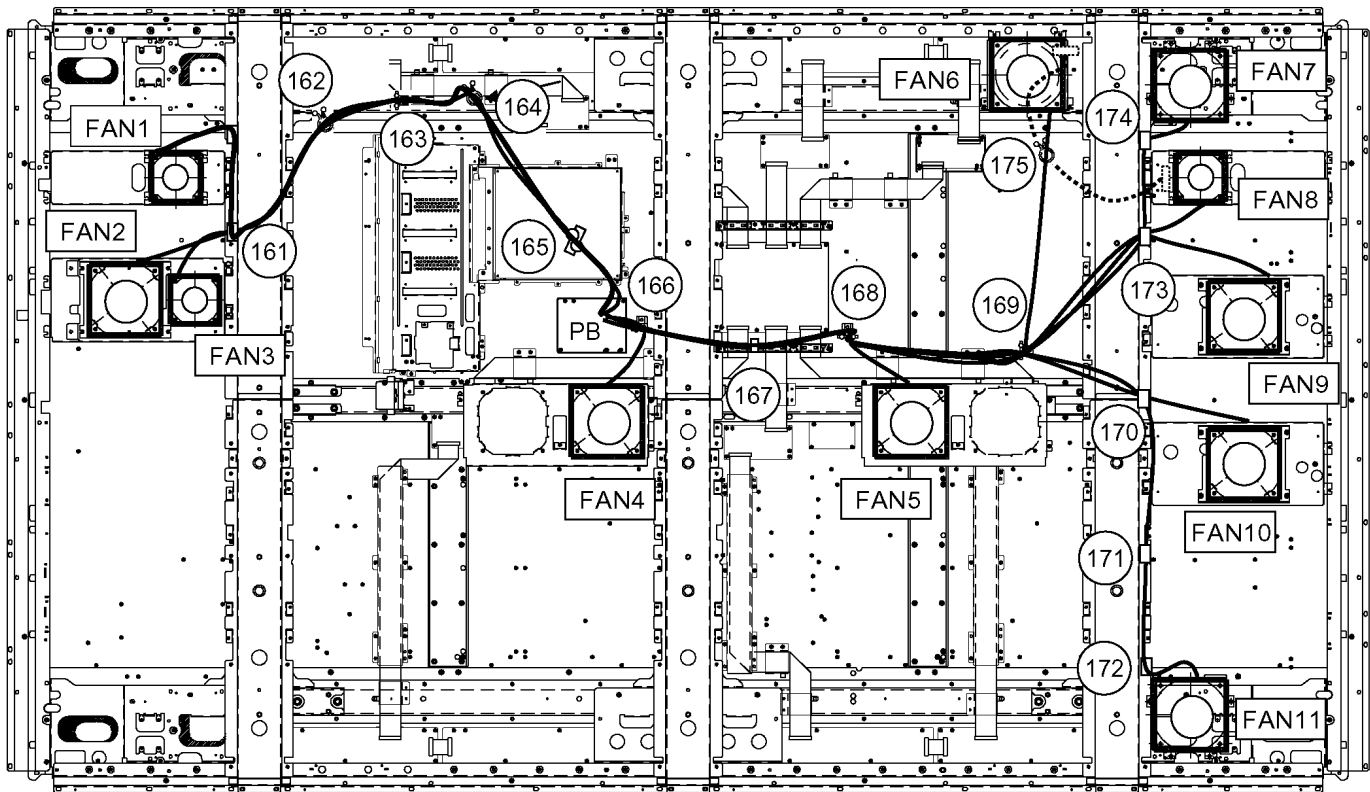


Clamp position

CONNECTOR NUMBER	156	157	158	159	160			
S1 – SC34				○	○			
V2 – DS2	○	○	○	○				

■ : Connector position

8.9. Lead Wiring (9)



Clamp position

CONNECTOR NUMBER	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175		
PB - FAN1	○	○	○	○	○												
PB - FAN2	○	○	○	○	○												
PB - FAN3	○	○	○	○	○												
PB - FAN4						○											
PB - FAN5						○	○	○									
PB - FAN6						○	○	○	○						○		
PB - FAN7						○	○	○	○				○	○			
PB - FAN8						○	○	○	○				○				
PB - FAN9						○	○	○	○				○				
PB - FAN10						○	○	○	○	○							
PB - FAN11						○	○	○	○	○	○	○					

■ : Connector position

9 Adjustment Procedure

9.1. Driver Set-up

9.1.1. Item / Preparation

1. Set Aging pattern 0 (Vset adjustment pattern) by IIC mode.
2. Set the picture adjustment items as follows.
 - Picture menu : Standard
 - Color temperature : Normal
 - Picture : 25
 - Aspect : Full

Caution

1. First perform Vsus voltage adjustment.
2. Confirmation of Vscn voltage should be performed after confirmation of Vad voltage adjustment.
When Vad = -85V, Voltage of Vscn is 55V ± 4V.

9.1.2. Adjustments

Adjust driver section voltages.

(Refer to the panel data on the panel label)

Check or adjust the following voltages with the multimeter.

Name	Test Point	Voltage	Volume	Remarks
Vsus	TPVSUS (SS)	Vsus ± 0.5V	VR251 (P_SS side)	*
Vsus	TPVSUS (SC)	Vsus ± 0.5V	VR251 (P_SC side)	*
Ve	TPVE (SS)	Ve ± 1V	VR6000 (SS)	*
Ve2	TPVE2 (SS)	5 ± 1V	(Fixed)	
Vad	TPVAD (SC2)	-85V ± 1V	VR6600 (SC2)	
Vscn	TPVSCN (SC2)	Vad + 140 ± 4V	VR6605 (SC2)	
Vset	TPVSET (SC2)	240 ± 1V	VR6604 (SC2)	
Vset2	TPVSET2 (SC)	Vad + 8 + 1V, -0V	VR6603 (SC)	
Vbk	TPVBK (SC2)	150 ± 1V	VR6351 (SC2)	
Vda	TPVDA (DR1)	75 ± 1V	(Fixed) (P_SC side)	
Vda	TPVDA (DR2)	75 ± 1V	(Fixed) (P_SC side)	
Vda	TPVDA (DR1)	75 ± 1V	(Fixed) (P_SS side)	
Vda	TPVDA (DR2)	75 ± 1V	(Fixed) (P_SS side)	
Vc	TPVC (DR1)	45 ± 0.5V	VR600 (DR1_SC)	
Vc	TPVC (DR2)	45 ± 0.5V	VR650 (DR2_SC)	
Vc	TPVC (DR1)	34.5 ± 0.5V	VR600 (DR1_SS)	D6 connector should be attached.
Vc	TPVC (DR2)	34.5 ± 0.5V	VR650 (DR2_SS)	D16 connector should be attached.

*See the Panel label.

Panel Label information

M

Serial No.

Ve: v, **Vsus:** v

MADE IN JAPAN
TQF

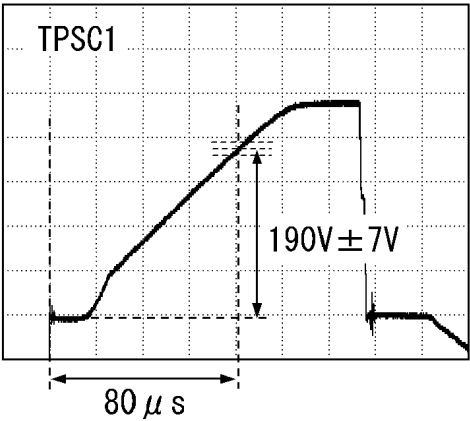
Adjustment voltage

←

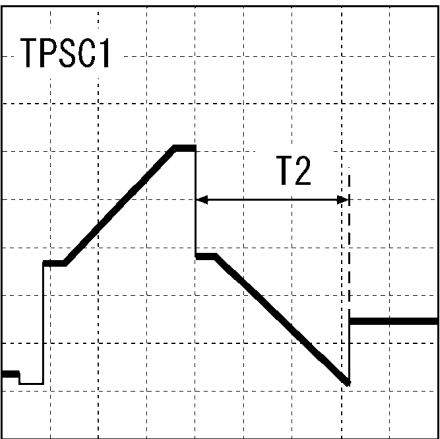
9.2. Initialization Pulse Adjust

- 1. Set Aging pattern 0 (Vset adjustment pattern) by IIC mode.
- 2. Set the picture adjustment items as follows.
 - Picture menu : Standard
 - Color temperature : Normal
 - Picture : 25
 - Aspect : Full
- 3. Connect Oscilloscope to TPSC1 and adjust VR6601 for $190V \pm 7V$.
- 4. Connect Oscilloscope to TPSC1 (T2) and adjust VR6602 for $165 \pm 10\mu \text{ Sec}$.

	Test point	Volume	Level
	TPSC1 (SC)	VR6601 (SC)	$190V \pm 7V$
T2	TPSC1 (SC)	VR6602 (SC)	$165 \pm 10\mu \text{ Sec}$



[V] 50V/div
[H] 20 μs /div



[V] 100V/div
[H] 50 μs /div

9.3. P.C.B. (Printed Circuit Board) Replacement

9.3.1. Caution

1. To remove P.C.B., wait 1 minute after power was off for discharge from electrolysis capacitors.

9.3.2. Quick adjustment after P.C.B. Replacement.

Adjust the following voltages with the multimeter.

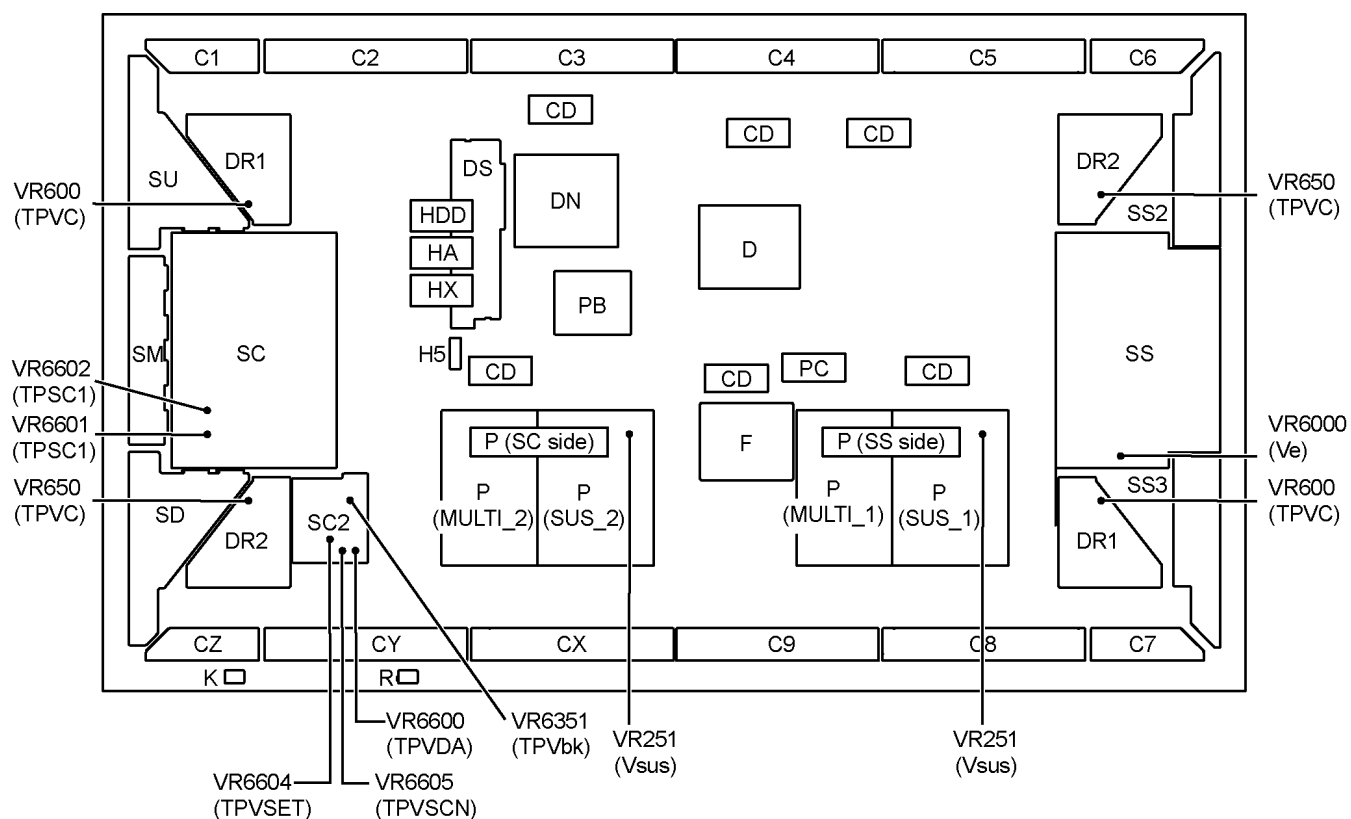
P.C.B.	Name	Test Point	Voltage	Volume	Remarks
P Board (SUS)	Vsus	TPVSUS (SS)	Vsus ± 0.5V	VR251 (P_SS side)	*
	Vsus	TPVSUS (SC)	Vsus ± 0.5V	VR251 (P_SC side)	*
SC2 Board	Vad	TPVAD (SC2)	-85V ± 1V	VR6600 (SC2)	
	Vscn	TPVSCN (SC2)	Vad + 140V ± 4V	VR6605 (SC2)	
	Vset	TPVSET (SC2)	240V ± 1V	VR6604 (SC2)	
	Vbk	TPVBK (SC2)	150V ± 1V	VR6351 (SC2)	
SS Board	Ve	TPVE (SS)	Ve ± 1V	VR6000 (SS)	*
DR1 Board	Vc	TPVC (DR1)	45 ± 0.5V	VR600 (SC side)	D6 connector should be attached.
			34.5 ± 0.5V	VR600 (SS side)	
DR2 Board	Vc	TPVC (DR2)	45 ± 0.5V	VR650 (SC side)	D16 connector should be attached.
			34.5 ± 0.5V	VR650 (SS side)	
D, DS Board	White balance and Sub brightness for NTSC, PAL, HD, PC and 625i signals				
DN Board	Set Market Select Number to correct destination by Ms mode (See chap. 10.1.4)				

*See the Panel label.

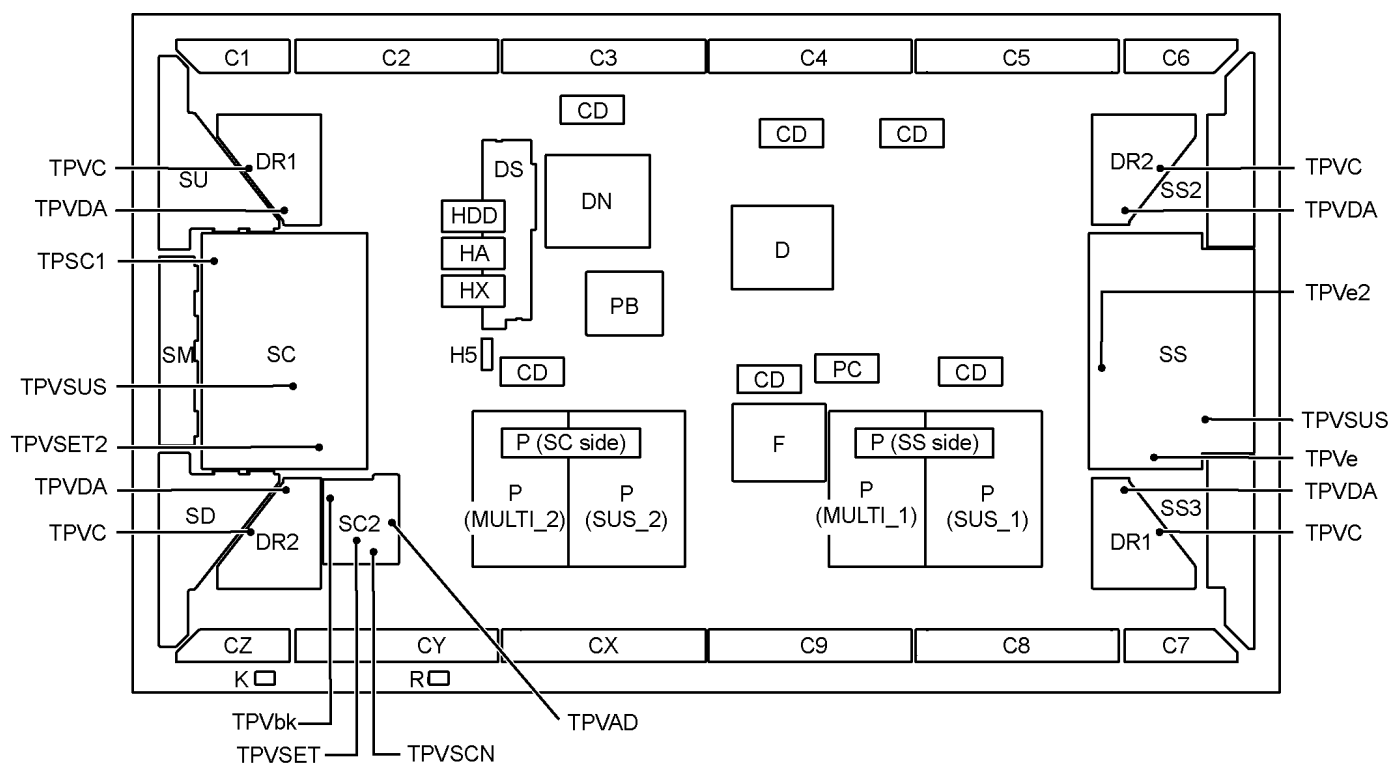
Caution:

Absolutely do not reduce Vsus voltage below Ve not to damage the P.C.B.

9.4. Adjustment Volume Location



9.5. Test Point Location



10 Service mode

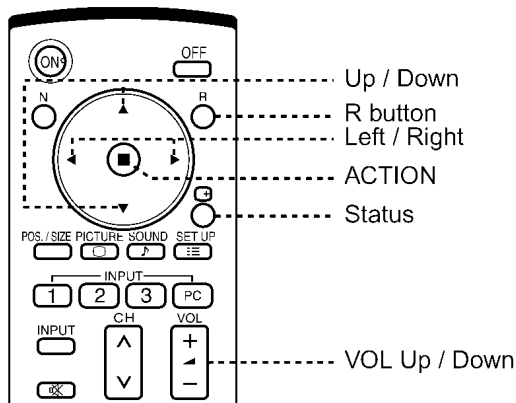
10.1. CAT (computer Aided Test) mode

CAT mode menu

CAT panel sys. 8. 2		
IIC Mode	←	
CD Mode	←	
SD Mode	←	
MS Mode	←	
ID Mode	←	

Mode	Function	Access button
IIC	Service Alignment	Action
CD (Complete Diagnostics)	Software version information EEPROM edit	Mute more than 5 seconds
SD (Status Display)	MTBF parameter	Action
MS Mode	Market Select	Mute more than 5 seconds
ID Mode	LSI Check	Mute more than 5 seconds

Remote control



How to access the CAT mode.

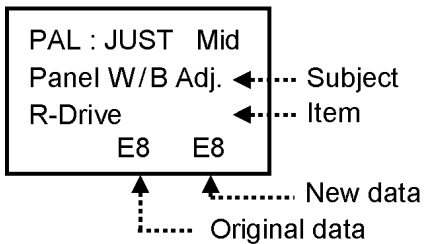
Press and the hold the **Volume down / - button** on the Side of the unit and press the **status button** on the remote control 3 times quickly within 2 seconds, this will place the unit into the CAT mode.

To exit the **CAT mode**, access the **ID mode** and switch off the main power.

10.1.1. IIC mode

Select the IIC mode by **Up / Down button** on the remote control at the front page of CAT mode and then press the **Action button** on the remote control.

OSD



How to use the IIC mode.

1. Select the alignment **Subject** by **Up / Down buttons** on the remote control.
2. Select the alignment **Item** by **Left / Right buttons** on the remote control.
3. Adjust **optimum setting** by **Volume Up / Down buttons** on the remote control.
4. The **data is memorized** when press the **R button** on the remote control or change the alignment Subject (or Items).

Subject and item are mentioned on "IIC mode structure".

To exit the IIC mode, press the **R button** on the remote control.

10.1.2. CD mode

Select the CD mode by **Up / Down button** on the remote control at the front page of CAT mode and then press the **Mute button** on the remote control more than 5 seconds.

CD			
MONITOR-MCU	V2. 0200F9	OK	← Factory use
MONITOR-EEPROM DN	72. 04 1	AB DB	
MONITOR-EEPROM H	16. 00	ED 4B	
MONITOR-FPGA 1/2/3	103	102	100
MONITOR-EEPROM Change Addr	00	01	
	Data	01	01 ← New data
PANEL-MCU	5 02		
PANEL-EEPROM	97 01		
PANEL-FPGA	97 01		
PANEL-PDROM	68 00		
PTCT	00. 00. 00. 00.		← SOS history
			← Original data

Micom software version (IC9702), this version can be upgrade by

1. replace of new version IC
2. Loading the new version software from loader tool, TZSC07036.

Memory data change

Address ← Change by **Up / Down buttons** on the remote control.

Change by **Left / Right buttons** on the remote control.

Data ← Change by **VOL Up / Down buttons** on the remote control.

The data is memorized when switch off the main power.

To exit the CD mode, press the **R button** on the remote control.

10.1.3. SD mode

Select the SD mode by **Up / Down button** on the remote control at the front page of CAT mode and then press the **Action button** on the remote control.

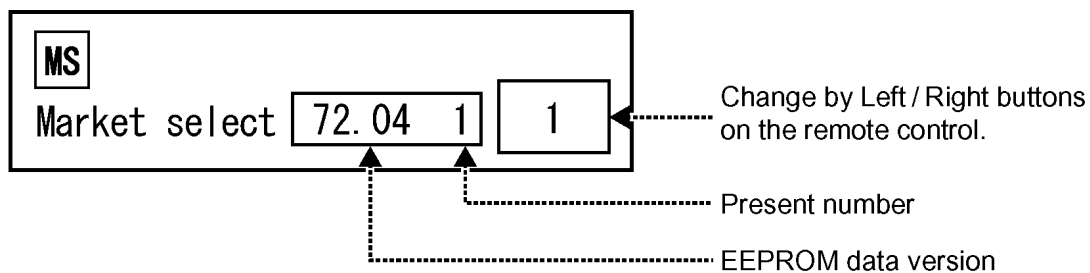
OSD

SD																							
Input command check	<table border="1"> <tr> <td>25</td><td>28</td><td>17</td><td>30</td><td>66</td><td>66</td><td>66</td> </tr> <tr> <td>39</td><td>FF</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td> </tr> <tr> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>64</td><td></td> </tr> </table>	25	28	17	30	66	66	66	39	FF	0	0	0	0	0	0	0	0	0	0	64		← History of remote control command. (Factory use).
25	28	17	30	66	66	66																	
39	FF	0	0	0	0	0																	
0	0	0	0	0	64																		
MTBF Parameter	WT 11 PT 0	← Cumulative Time for power on condition. (unit :hour)																					
Remote Control Mode	A B	← Counter of power on. (unit :time)																					

To exit the SD mode, press the **R button** on the remote control.

10.1.4. MS mode

Select the MS mode by **Up / Down button** on the remote control at the front page of CAT mode and then press the **Mute button** on the remote control more than 5 seconds.



To exit the MS mode, press the **R button** on the remote control.

Caution:

Market Select should be set after exchange of DN-Board.

Destination number

Number	Destination	Number	Destination
0	Japan	14	Thailand (Hotel)
1	North America	15	--
2	Europe	16	Mexico
3	Others	17	Mexico (Hotel)
4	Britain	18	China
5	Taiwan	19	China (Hotel)
6	Thailand	20	--
7	--	21	--
8	Japan (Hotel)	22	--
9	North America (Hotel)	23	--
10	Europe (Hotel)	24	--
11	Others (Hotel)	25	--
12	Britain (Hotel)	26	--

Default setting

Number	Destination
1	North America

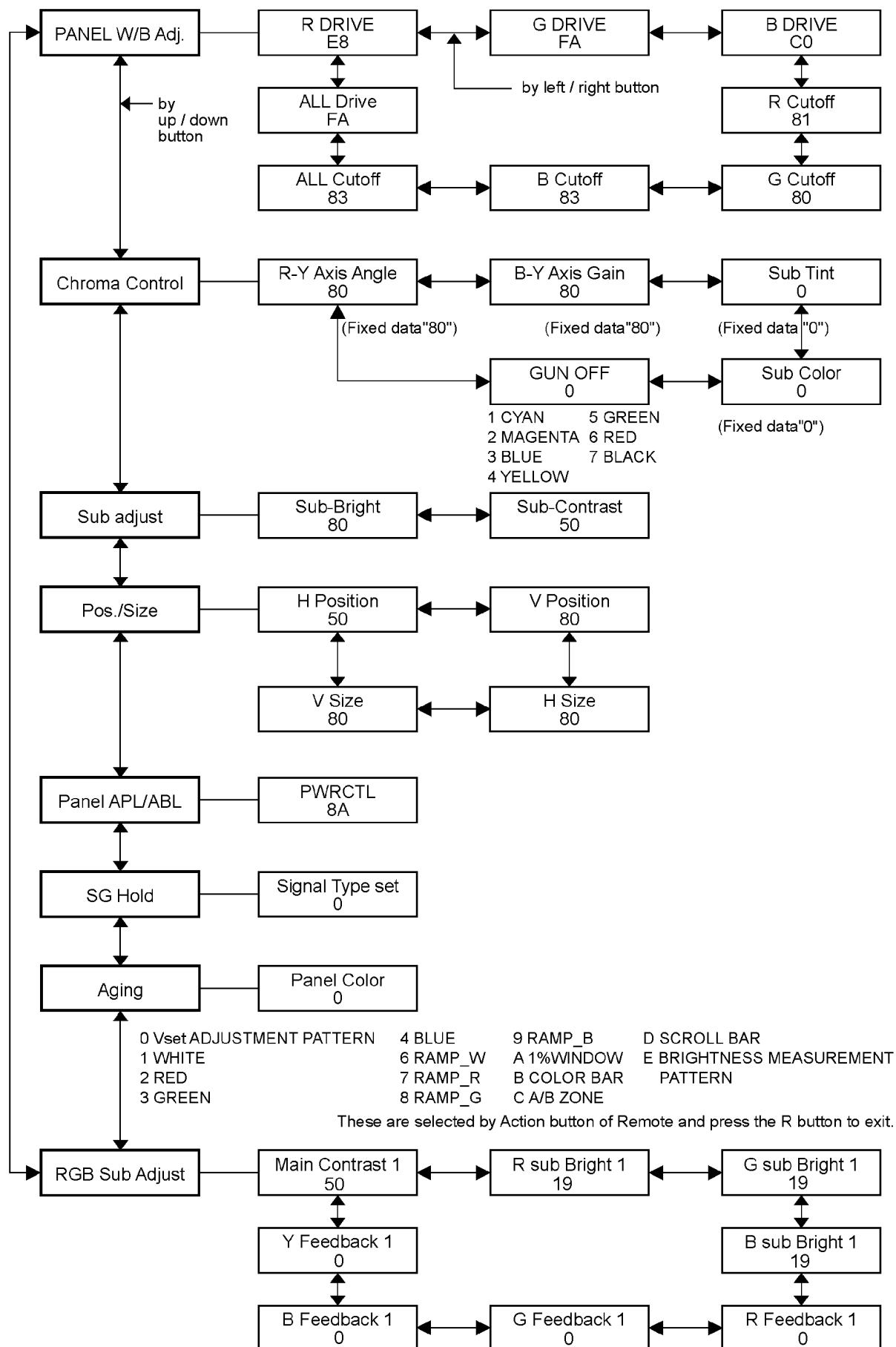
10.1.5. ID mode

Select the ID mode by **Up / Down button** on the remote control at the front page of CAT mode and then press the **Mute button** on the remote control more than 5 seconds.

ID	IIC1	IIC2	IIC3	IIC4	SI
DN	IC4703	OK H90	DS	IC8181	OK H51
	IC5402	OK H61		IC3001	OK H22
	IC5101	OK H56		IC3003	OK H63
	IC5201	OK H57		IC3004	OK H64
	IC5301	OK H58		IC3005	OK H65
	IC4501	OK H53		IC2303	OK H21
	IC4001	OK H52			
	IC5405	OK H31			
	IC5103	OK H32			
	IC5104	OK H33			
	IC5501	OK H51			
D PANEL OK INCHMXXXPXXX					

To exit the ID mode, press the **R button** on the remote control.

10.2. IIC mode structure (following items value is sample data)



11 Adjustment

11.1. RGB white balance adjustment

Instrument Name	Connection	Remarks												
• RGB VGA W / B pattern • Color analyzer (Minolta CA-100 or equivalent)	PC input Panel surface	User setting: Normal (Picture menu: Standard)												
Procedure		Remarks												
• Ensure aging is adequate. • Make sure the front panel to be used on the final set is fitted. • Make sure a color signal is not being shown before adjustment. • Put the color analyzer where there is little color variation. 1. Set COMPONENT / RGB-IN SELECT to RGB. 2. Select the IIC mode "PANEL W / B Adj." item. 3. Check that the color temperature is "COOL (High)". 4. Output a white balance pattern. 5. Touch the signal receiver of color analyzer to the highlight window's center. 6. Fix G drive at E0h and adjust B drive and R drive so x, y become the "Color temperature High" in the below table. 7. Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. 8. Set color temperature to "NORMAL (Medium)". 9. Fix G drive at E0h and adjust B drive and R drive so the highlight window's x, y becomes the "Color temperature Medium" in the below table. 10. Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. 11. Set color temperature to "WARM (Low)". 12. Set G drive to E0h and adjust B drive and R drive so the highlight window's x, y become the "Color temperature Low" shown in the below table. 13. Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. 14. Copy the R drive, G drive and B drive data in NTSC, PAL DVI region. Table 1 W/B adjustment values <table border="1"> <thead> <tr> <th>Color temperature</th><th>x</th><th>y</th></tr> </thead> <tbody> <tr> <td>High</td><td>0.276</td><td>0.276</td></tr> <tr> <td>Medium</td><td>0.288</td><td>0.296</td></tr> <tr> <td>Low</td><td>0.313</td><td>0.329</td></tr> </tbody> </table> Adjustment target Hi-light: $x \pm 0.003$ $y \pm 0.003$ Hi-light is target of the number at drive adjustment in the hi-light windows. Therefore, it is not target of the hi-light number at after adjustment white balance.		Color temperature	x	y	High	0.276	0.276	Medium	0.288	0.296	Low	0.313	0.329	Picture Menu: Standard Picture: 25 Aspect: Full Position and size: Normal • Highlight section Signal amplitude 75% RGB VGA W/B Pattern  High light 75% Low light 15% • Cutoff standard G: 80h • Drive standard G: E0h
Color temperature	x	y												
High	0.276	0.276												
Medium	0.288	0.296												
Low	0.313	0.329												

Table 2 Drive data addresses (PC/RGB)

Color temperature	R	G	B
High	A0-11AD	A0-11AE	A0-11AF
Medium	A0-11B0	A0-11B1	A0-11B2
Low	A0-11B3	A0-11B4	A0-11B5

Table 3 Drive data addresses (NTSC)

Color temperature	R	G	B
High	A0-1180	A0-1181	A0-1182
Medium	A0-1183	A0-1184	A0-1185
Low	A0-1186	A0-1187	A0-1188

Table 4 Drive data addresses (PAL)

Color temperature	R	G	B
High	A0-1189	A0-118A	A0-118B
Medium	A0-118C	A0-118D	A0-118E
Low	A0-118F	A0-1190	A0-1191

Table 5 Drive data addresses (DVI)

Color temperature	R	G	B
High	A0-11B6	A0-11B7	A0-11B8
Medium	A0-11B9	A0-11BA	A0-11BB
Low	A0-11BC	A0-11BD	A0-11BE

11.2. HD white balance adjustment

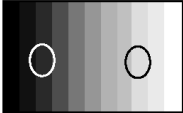
Instrument Name	Connection	Remarks												
- HD W / B pattern (COMPONENT Output) - Color analyzer (Minolta CA-100 or equivalent)	PC input Panel surface	User setting: Normal (Picture menu: Standard)												
Procedure		Remarks												
- Ensure aging is adequate. - Make sure the front panel to be used on the final set is fitted. - Make sure a color signal is not being shown before adjustment. - Put the color analyzer where there is little color variation. - Set COMPONENT / RGB-IN SELECT to COMPONENT - Select the IIC mode "PANEL W / B Adj." item. - Check that the color temperature is "COOL (High)". - Output a white balance pattern. - Touch the signal receiver of color analyzer to the highlight window's center. - Fix G drive at E0h and adjust B drive and R drive so x, y become the "Color temperature High" in the below table. - Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. - Set color temperature to "NORMAL (Medium)". - Fix G drive at E0h and adjust B drive and R drive so the highlight window's x, y becomes the "Color temperature Medium" in the below table. - Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. - Set color temperature to "WARM (Low)". - Set G drive to E0h and adjust B drive and R drive so the highlight window's x, y become the "Color temperature Low" shown in the below table. - Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. - Copy the R drive, G drive and B drive data in YUV1_525ip, YUV3_625ip region. Table 6 W/B adjustment values <table border="1"> <thead> <tr> <th>Color temperature</th><th>x</th><th>y</th></tr> </thead> <tbody> <tr> <td>High</td><td>0.276</td><td>0.276</td></tr> <tr> <td>Medium</td><td>0.288</td><td>0.296</td></tr> <tr> <td>Low</td><td>0.313</td><td>0.329</td></tr> </tbody> </table> Adjustment target Hi-light: $x \pm 0.003$ $y \pm 0.003$ Hi-light is target of the number at drive adjustment in the hi-light windows. Therefore, it is not target of the hi-light number at after adjustment white balance.		Color temperature	x	y	High	0.276	0.276	Medium	0.288	0.296	Low	0.313	0.329	Picture Menu: Standard Picture: 25 Aspect: Full Position and size: Normal - Highlight section Signal amplitude 75% HD W/B Pattern (COMPONENT Output)  High light 75% Low light 15% - Cutoff standard G: 80h - Drive standard G: E0h
Color temperature	x	y												
High	0.276	0.276												
Medium	0.288	0.296												
Low	0.313	0.329												

Table 7 Drive data addresses (YUV2_HD)

Color temperature	R	G	B
High	A0-119B	A0-119C	A0-119D
Medium	A0-119E	A0-119F	A0-11A0
Low	A0-11A1	A0-11A2	A0-11A3

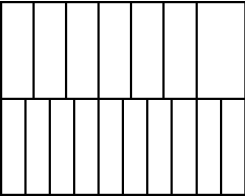
Table 8 Drive data addresses (YUV1_525ip)

Color temperature	R	G	B
High	A0-1192	A0-1193	A0-1194
Medium	A0-1195	A0-1196	A0-1197
Low	A0-1198	A0-1199	A0-119A

Table 9 Drive data addresses (YUV3_625ip)

Color temperature	R	G	B
High	A0-11A4	A0-11A5	A0-11A6
Medium	A0-11A7	A0-11A8	A0-11A9
Low	A0-11AA	A0-11AB	A0-11AC

11.3. Power control adjustment

Instrument Name	Connection	Remarks
- PC (RGB) signal generator (Leader: VGA / No.9 signal) - Wattmeter	- PC input - Connect the AC power of the adjustment set to the wattmeter.	Set "RGB" at 'COMPONENT / RGB-IN SELECT' in Setup Menu.
Procedure		Remarks
[condition] - Make sure the set is aged for 30 minutes or more before adjustment. - Voltage 120V 50 / 60Hz (variation within 1%) - Volume at minimum and screen size at full - PC input and picture menu at normalized Dynamic - Connect the set's AC power to the wattmeter. - Receive the VGA No.9 signal from Leader. - Select the PWRCTL item in Panel APL / ABL in the IIC mode. - Adjust PWRCTL so the set's power consumption is description below. Adjust to shift large to small for DAC. Factory adjustment with OSD 103" 1350+10W / -30W BUSCON without OSD 103" 1350+10W / -30W		 No.9 Signal Top half: Full color bar Bottom half: Horizontal 10 steps bar Notes: - When passing through factory adjustment mode, the power few watts which goes down is the consideration being completed. - Adjust the large number for DAC when they have 2 adjustment points.

12 Troubleshooting guide

12.1. Self Check

12.1.1. Display Indication

1. Self-check is used to automatically check the bus line controlled circuit of the Plasma display.
2. To get into the Self-check mode, press the **volume down** button on the customer controls at the side of the set, at the same time pressing the **OFF-TIMER** button on the remote control, and the screen will show.

If the CCU ports have been checked and found to be incorrect. Or not located then " - - " will appear in place of " OK ".

" 01 " in the line of the " PTCT " means the number of blinks of the Power LED is 1. (Reference to 11.1.2)

" H09 " in the line of the " PTCT " is the error code.

Note:

The line of the " PTCT " displays when you get into the Self-check mode for the first time only after the Power LED blinks.

ID	IIC1	IIC2	IIC3	IIC4	SI			
DN	IC4703	OK H90	DS	IC8181	OK H51			
	IC5402	OK H61		IC3001	OK H22			
	IC5101	OK H56		IC3003	OK H63			
	IC5201	OK H57		IC3004	OK H64			
	IC5301	OK H58		IC3005	OK H65			
	IC4501	OK H53		IC2303	OK H21			
	IC4001	OK H52						
	IC5405	OK H31						
	IC5103	OK H32						
	IC5104	OK H33						
	IC5501	OK H51						
<table border="1"> <tr> <td>D</td> <td>PANEL</td> <td>OK</td> </tr> </table>						D	PANEL	OK
D	PANEL	OK						
INCHMXXXPXXX								
PTCT 00 H09								

12.1.2. Power LED Blinking timing chart

1. Subject

Information of LED Blinking timing chart.

2. Contents

When an abnormality has occurred the unit, the protection circuit operates and reset to the stand by mode. At this time, the defective block can be identified by the number of blinks of the Power LED on the front panel of the unit.

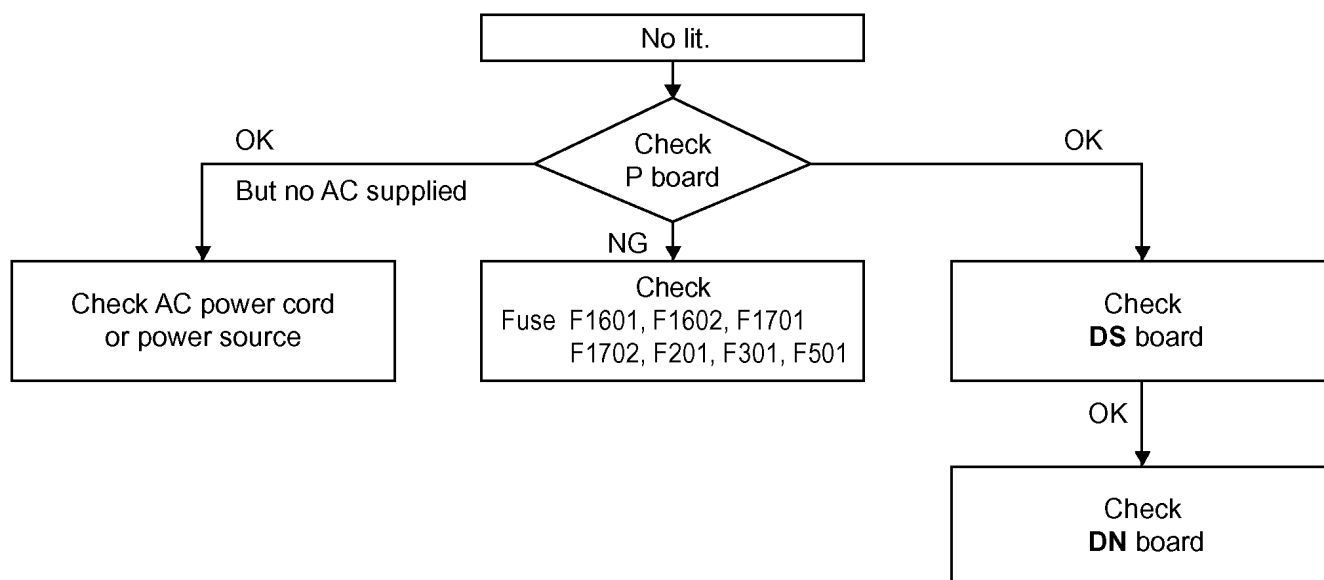
Blinking times	Blinking timing	Contents & Check point	Check point
1		No particular check point	—
2		15V SOS	P-Board (SS side)
3		3.3V SOS	D-Board DN-Board
4		POWER SOS	P-Board
5		5V SOS	P-Board (SS-side) D-Board DN-Board DS-Board
6		Driver SOS1(SCAN)	SC-Board SC2-Board SU-Board SM-Board SD-Board
7		Driver SOS2(DATA)	DR1-Board DR2-Board C1-Board C2-Board C3-Board C4-Board C5-Board C6-Board C7-Board C8-Board C9-Board CX-Board CY-Board CZ-Board PC-Board
8		Driver SOS3(SUS)	SS-Board SS2-Board SS3-Board
9		Panel Config SOS	D-Board
10		Terminal Board SOS	P-Board DS-Board
11		FAN SOS	PB-Board FAN

12.2. No Power

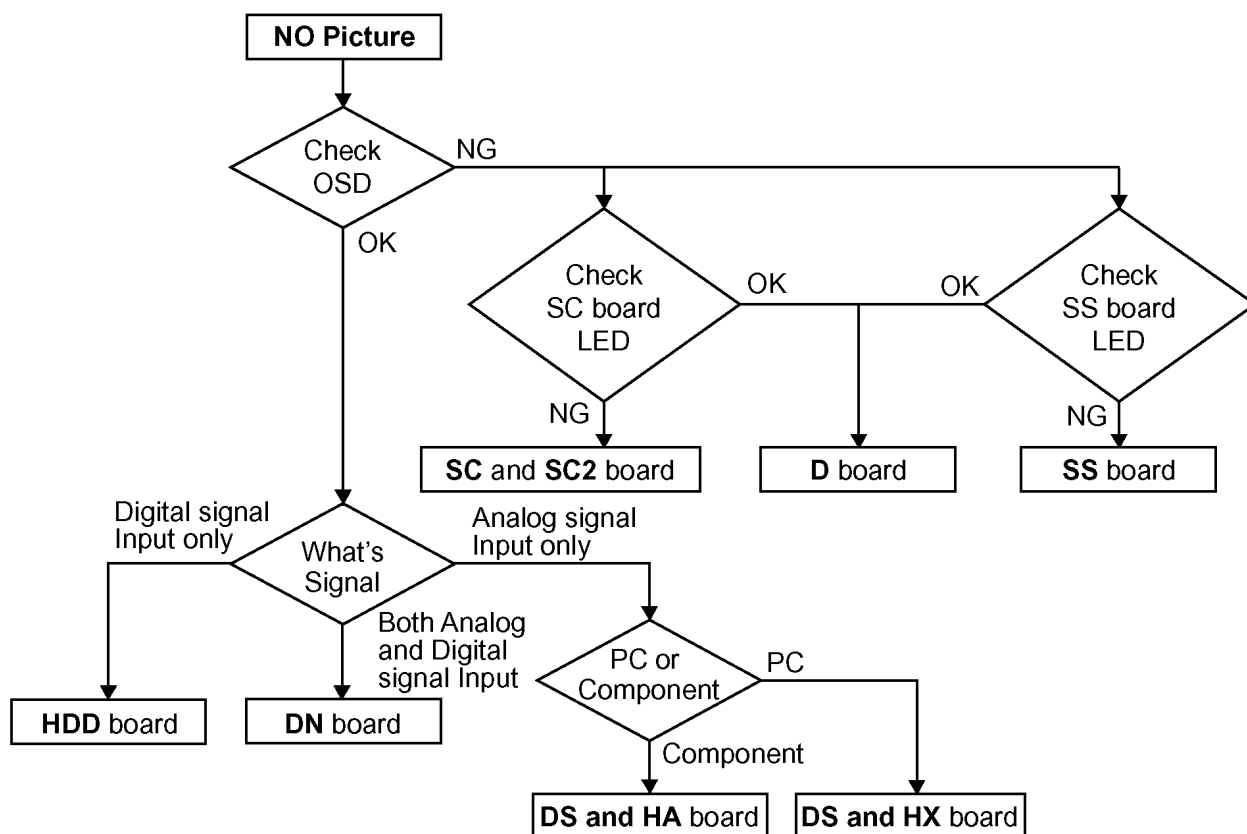
First check point

There are following 3 states of No Power indication by power LED.

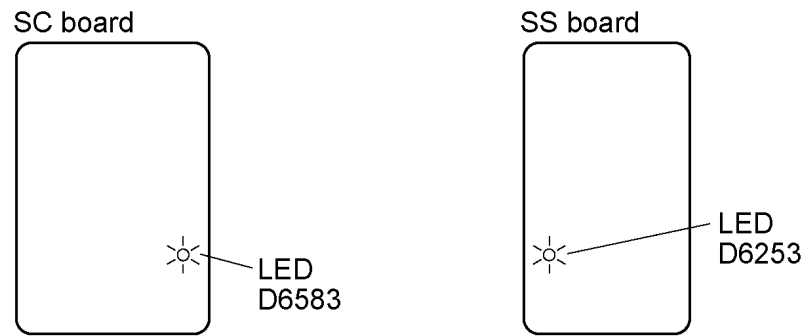
1. No lit.
2. Green is lit then turns red blinking a few seconds later.
3. Only red is lit.



12.3. No Picture



Drive circuits LED indicator



12.4. Local screen failure

Plasma display may have local area failure on the screen. Fig - 1 is the possible defect P.C.B. for each local area.

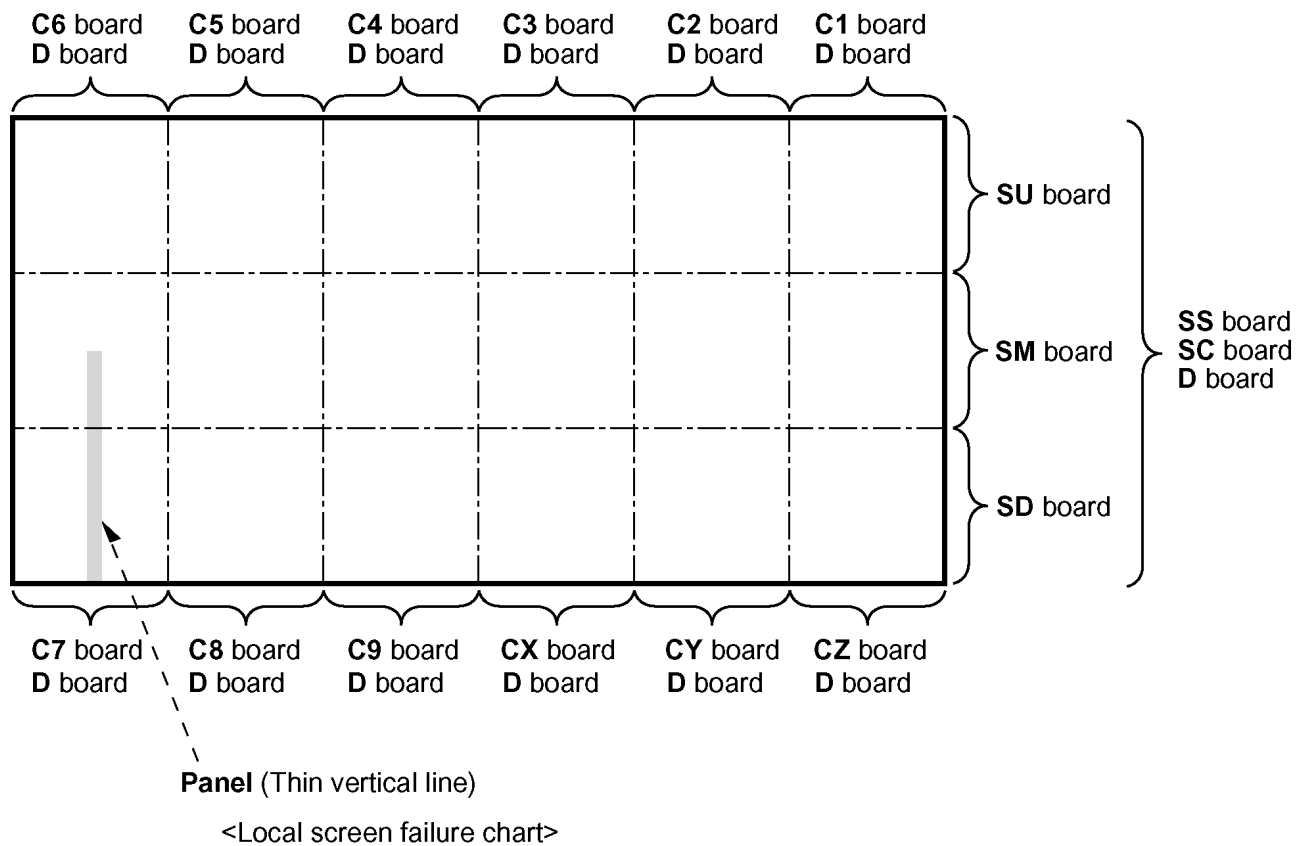
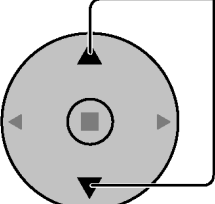
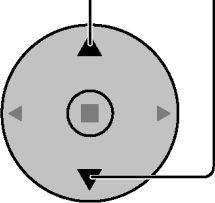
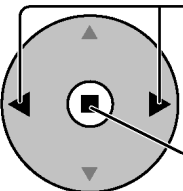
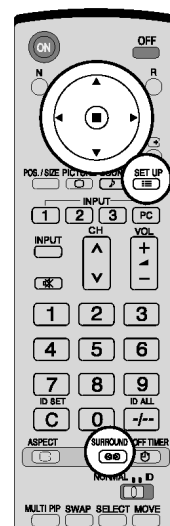


Fig - 1

13 Option Setting

- 1  Press to display the Setup menu.
- 2  Press to select "OSD Language".
- 3  Press and hold until the Options menu is displayed.
- 4  Press to select your preferred menu.
- 5  Press to adjust the menu.
Press to confirm.
- 6  Press to exit from Options menu.



Options		1/3
Off-timer function	Enable	▶
Onscreen display	On	▶
Initial INPUT	Off	▶
Initial VOL level	Off	0
Maximum VOL level	Off	0
INPUT lock	Off	
Studio W/B	Off	
Advanced PIP	Off	
Display size	Off	

Option Menu for GPF9DJ series

GPH9DJ chassis series have special function and operation setting facility called Option Menu. This Option Menu is useful for special function required customers. This should be set at the installation stage.

Option menus	default setting	Contents
Off-timer function	Enable	Off-timer operation Enable / Disable.
Onscreen display	On	Enable / Disable to display input mode indication after power on and no signal indication.
Initial INPUT	Off	Sets the initial input mode when the power is turned on. Allow input mode selection while power is on.
Initial VOL level	Off	Sets the initial volume level when the power is turned on. Allow Volume control while power is on.
Maximum VOL Level	Off	Sets the maximum volume to desired level. Volume cannot exceed this level.
INPUT lock	Off	Fixes the input mode to AV, Component / RGB or PC. Can not change input mode by input selection key.
Studio W / B	Off	Set warm mode color temperature to 3,200 Kelvin.
Advanced PIP	Off	Off : Sets normal two screen display mode. On : Sets Advanced PIP mode.
Display size	Off	Adjusts the image display size on screen. On : Sets the image display size approximately 95% of the normal image display.
Button lock	Off	Enable / Disable bottom operation buttons (Input, Menu, Enter and / or volume up / down)
Remocon User Level	Off	Remote key invalidation. Off : Valid key is all key of remote. User1 : Valid key are only Stand-by (ON / OFF), Input, Direct input, Status, Surround, Sound mute On / Off, and volume adjustment. User2 : Valid key is only Stand-by (ON / OFF). User3 : All keys are null and void
ID select	0	Set ID number from 0 to 100.
Remote ID	Off	Remote ID function On / Off. (While the Remote ID on, standard remote function can not control the unit.)
Serial ID	Off	Serial ID function On / Off
Slot power	Off	Sets the slot power mode while the power is turned on. Allow Optional Terminal Board insert Slots while power is on.
V. Installation	Off	V. Installation function On / Off Note: Turn up the power switch for the upward direction when you set display vertically.
Rotate	Off	The image rotates 180 degrees (up-down)
Serial Slot Select	Slot1	Selects the slot which communicates serial.

Note :

When both main unit buttons and remote control are disabled due to the "Button lock", "Remocon User level" or "RemoteID" adjustments, set all the values "Off" so that all the buttons are enabled again.

Press the "Volume down" button on main unit together with "R" button on the remote control and hold for more than 5 seconds. The "SHIPPING" menu is displayed and the lock is released when it disappears.

NOTE

[illegible]

13 Interconnection and Block Diagram

13.1. Diagram Note

Important Safety Notice

Components identified by  mark have special characteristics important for safety. When replacing any of these components, use only manufacture's specified parts.

Notes:

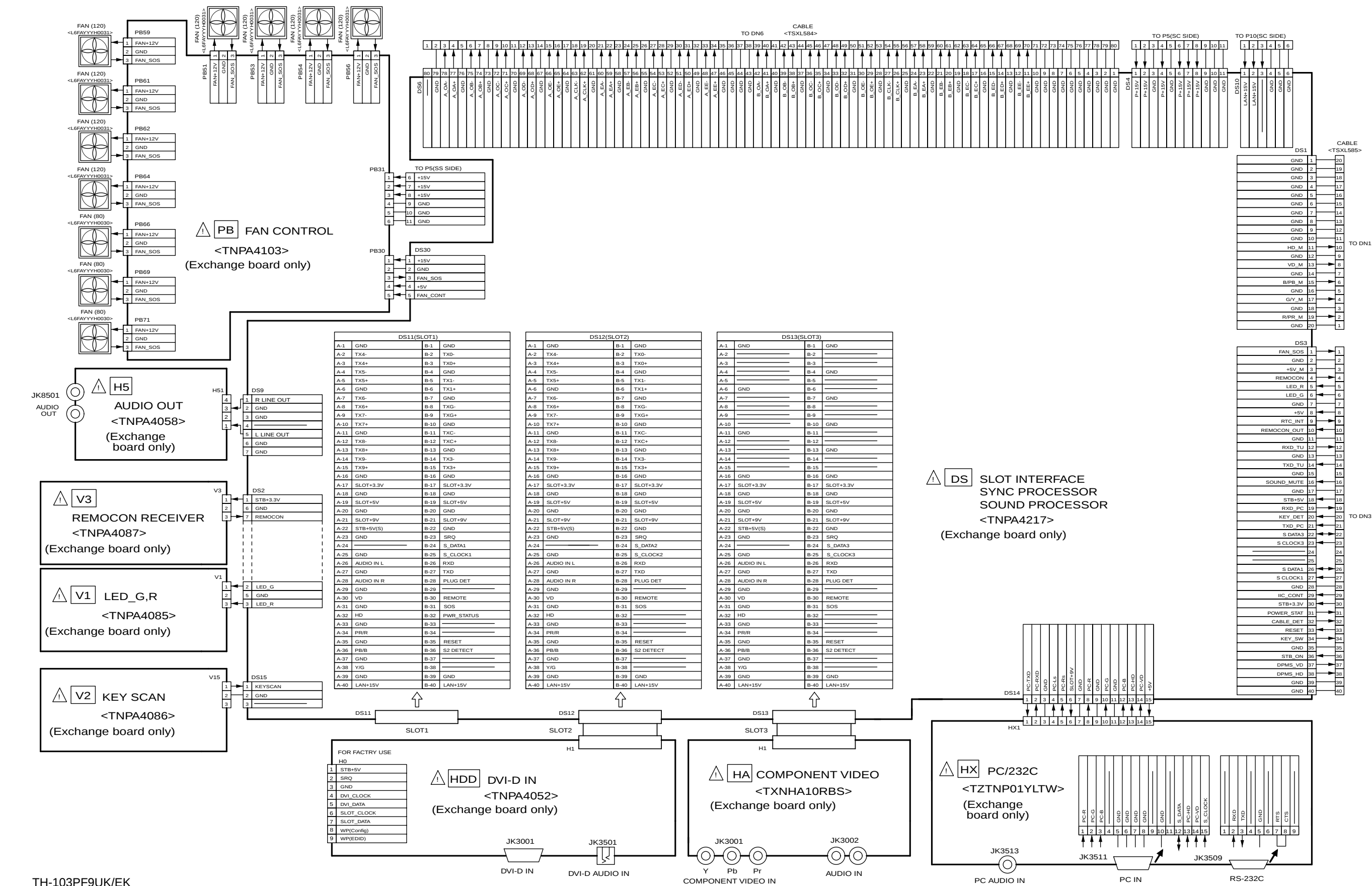
1. **Resistor**
Unit of resistance is OHM [Ω] (K=1,000, M=1,000,000).
2. **Capacitor**
Unit of capacitance is μF , unless otherwise noted.
3. Coil
Unit of inductance is H, unless otherwise noted.
4. Test Point
 : Test Point position
5. Earth Symbol
 : Chassis Earth (Cold)  : Line Earth (Hot)
6. Voltage Measurement
Voltage is measured by a DC voltmeter.
Conditions of the measurement are the following:

Power Source	AC240V, 50/60Hz (UK)
	AC220-240V, 50/60Hz (EK)
Receiving Signal	Colour Bar signal (RF)
All customer's controls	Maximum positions
7. When arrow mark () is found, connection is easily found from the direction of arrow.
8. Indicates the major signal flow. : Video  Audio 
9. This schematic diagram is the latest at the time of printing and subject to change without notice.

Remarks:

1. The Power Circuit contains a circuit area which uses a separate power supply to isolate the earth connection.
The circuit is defined by HOT and COLD indications in the schematic diagram. Take the following precautions.
All circuits, except the Power Circuit, are cold.
Precautions
 - a. Do not touch the hot part or the hot and cold parts at the same time or you may be shocked.
 - b. Do not short- circuit the hot and cold circuits or a fuse may blow and parts may break.
 - c. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously or a fuse may blow.
Connect the earth of instruments to the earth connection of the circuit being measured.
 - d. Make sure to disconnect the power plug before removing the chassis.

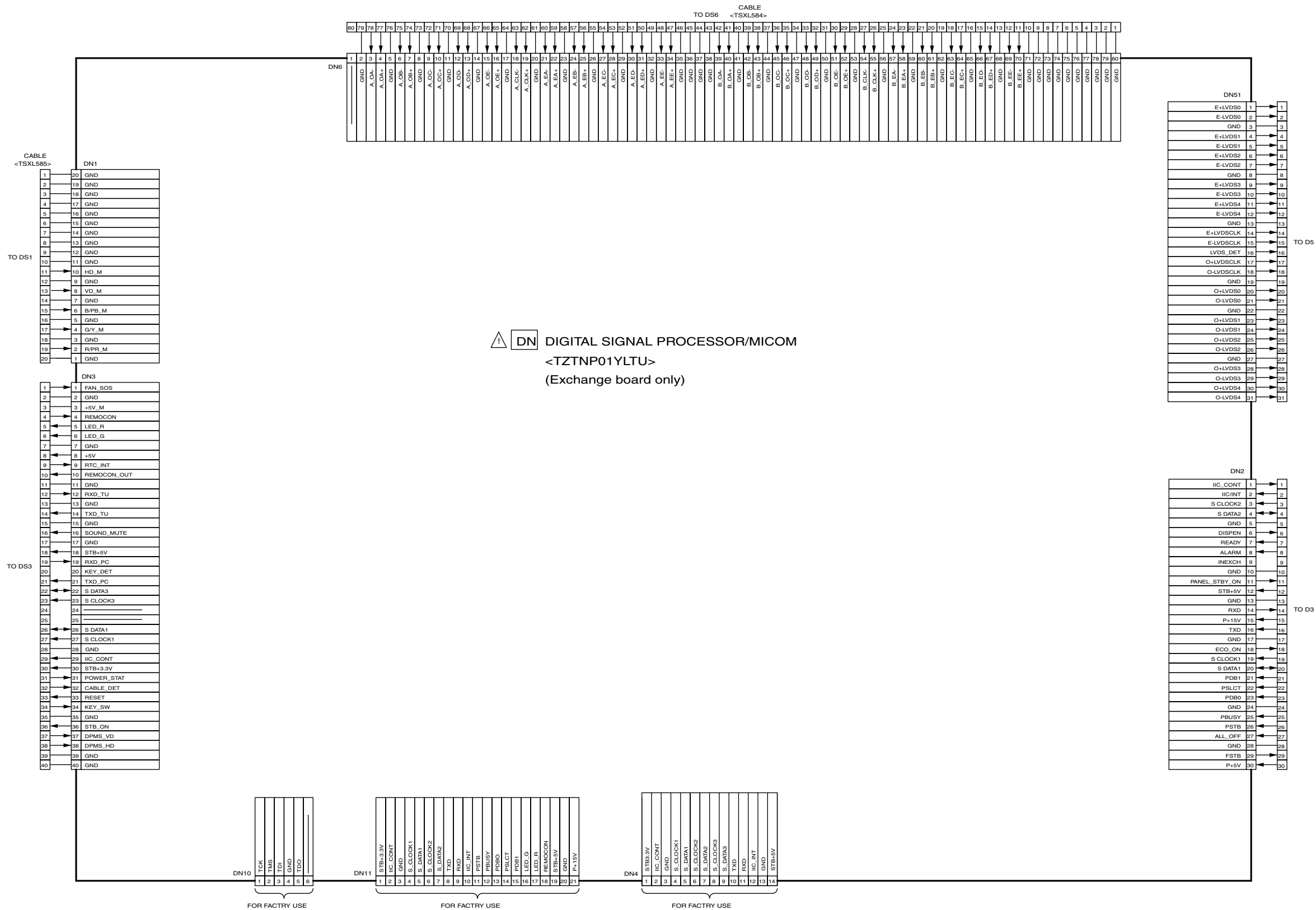
13.2. Interconnection (1 of 8) Diagram



TH-103PF9UK/EK
Interconnection (1 of 8) Diagram

TH-103PF9UK/EK Interconnection (1 of 8) Diagram

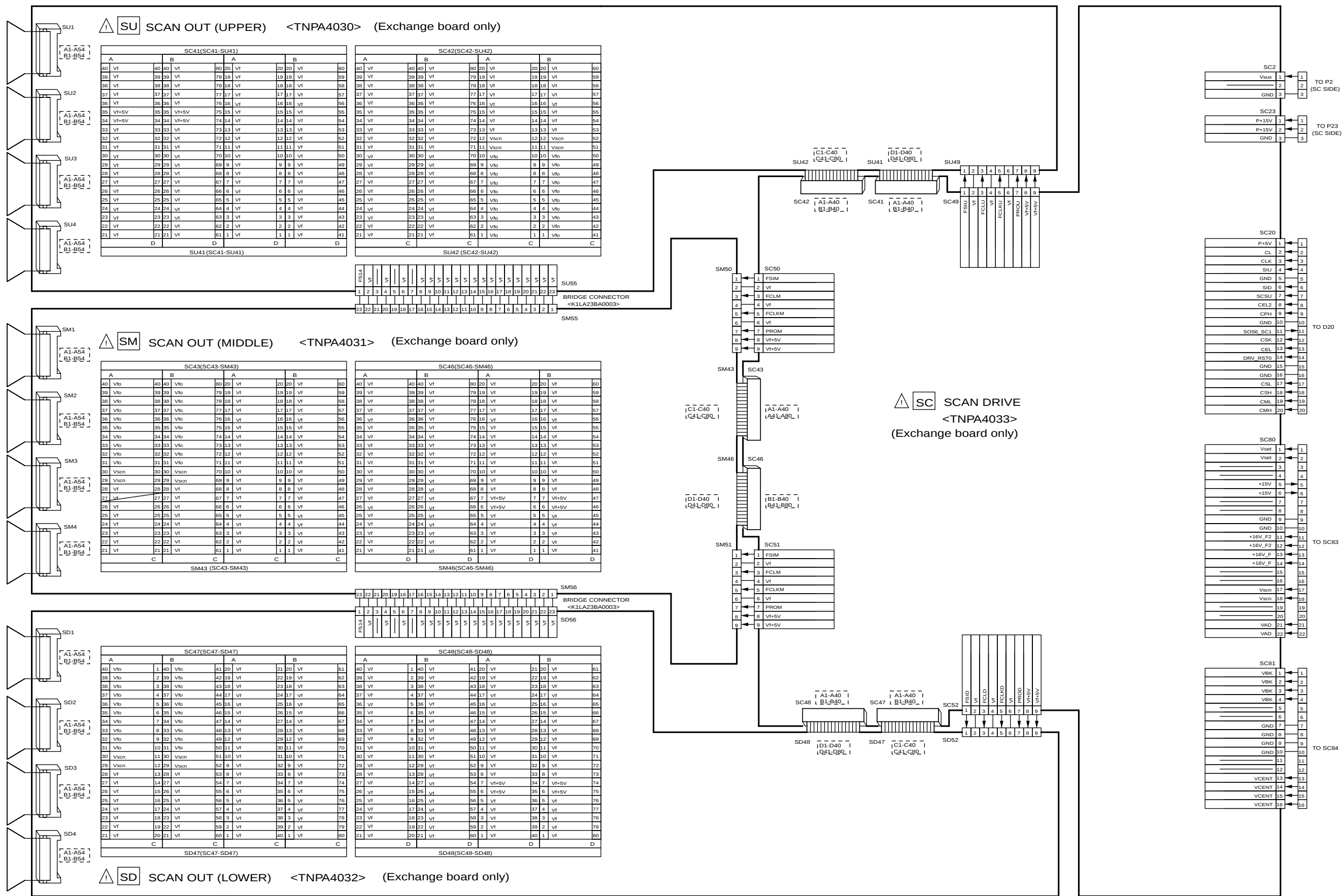
13.3. Interconnection (2 of 8) Diagram



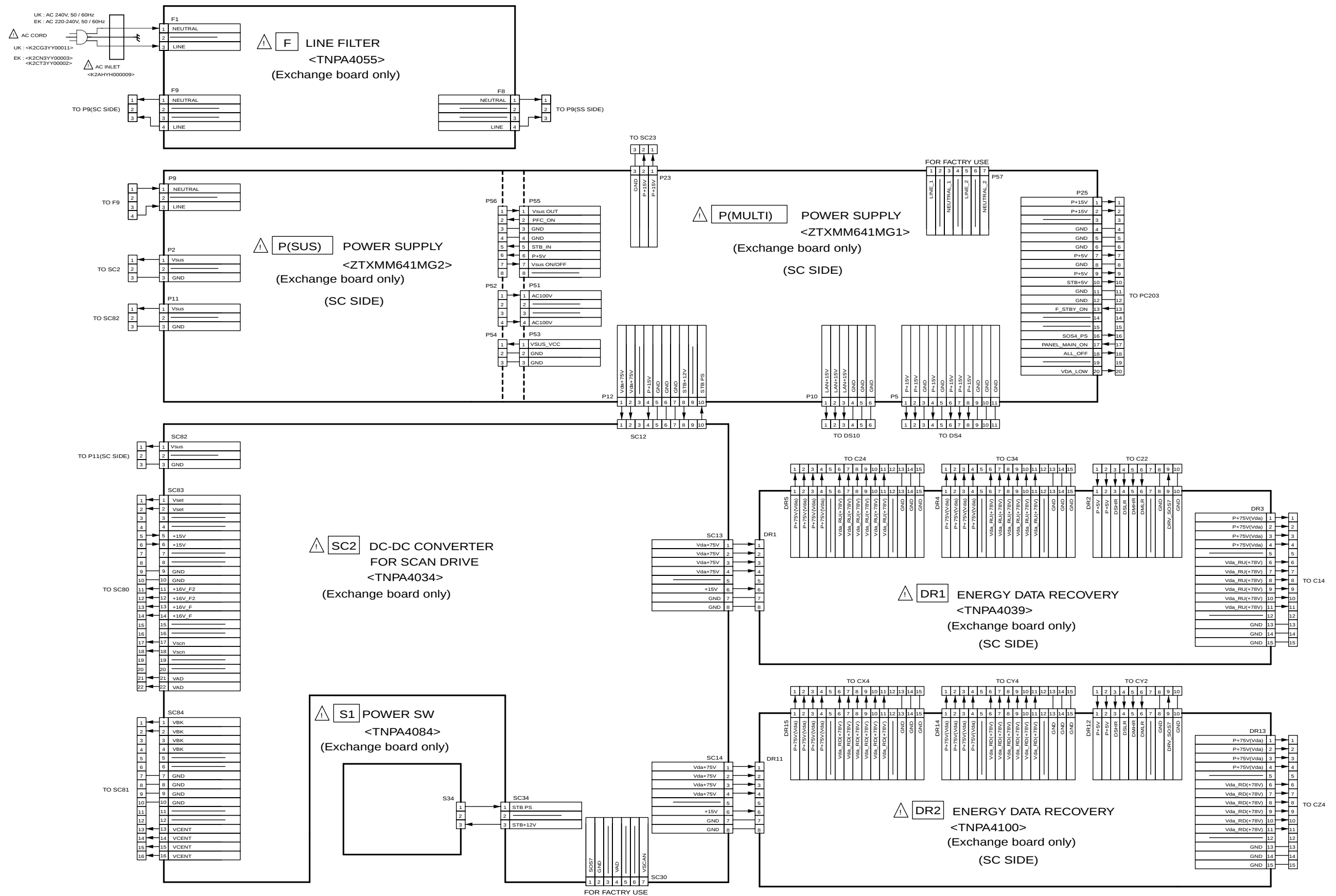
TH-103PF9UK/EK
Interconnection (2 of 8) Diagram

TH-103PF9UK/EK
Interconnection (2 of 8) Diagram

13.4. Interconnection (3 of 8) Diagram

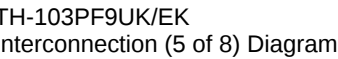


13.5. Interconnection (4 of 8) Diagram

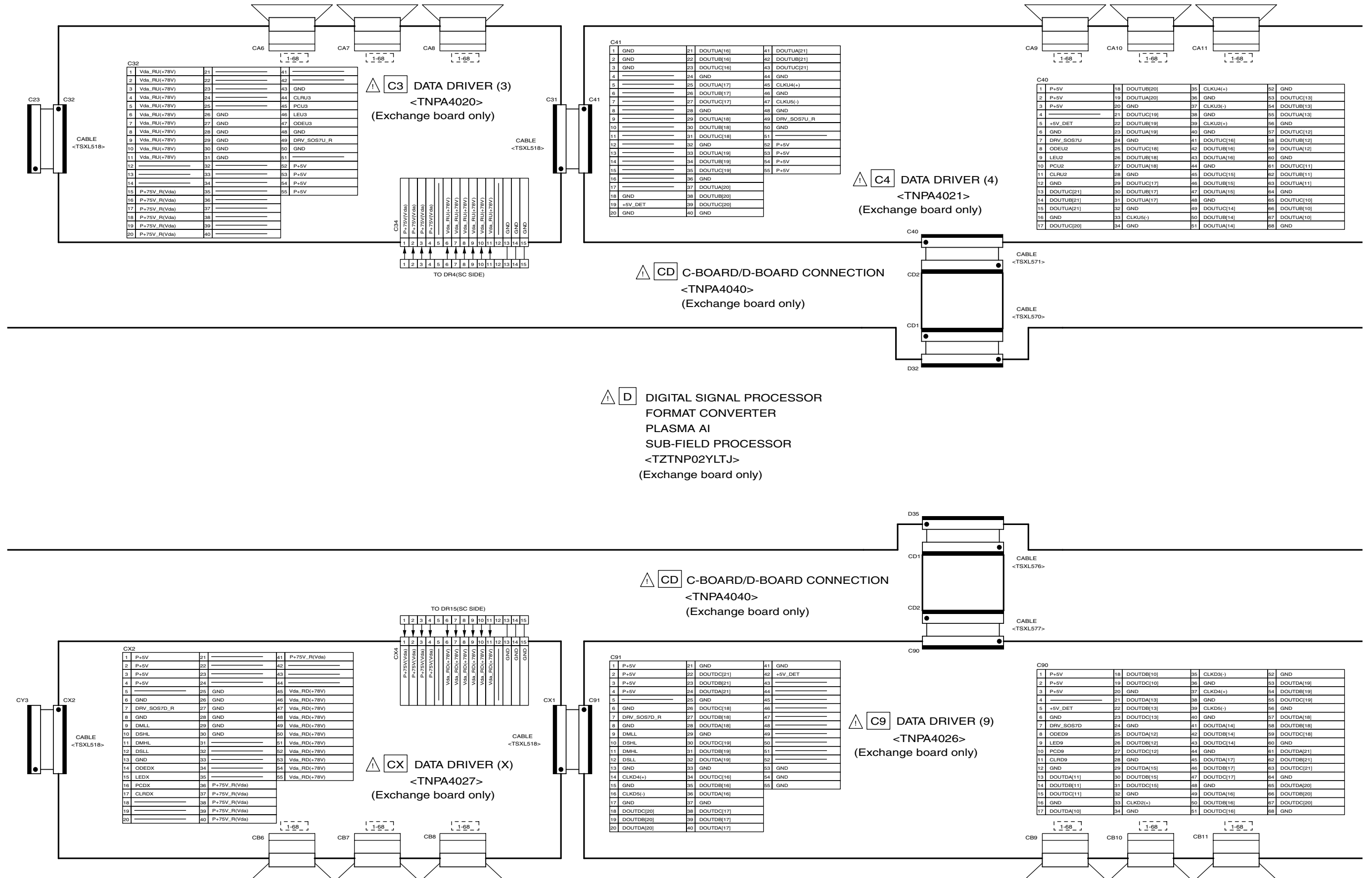


TH-103PF9UK/EK
Interconnection (4 of 8) Diagram

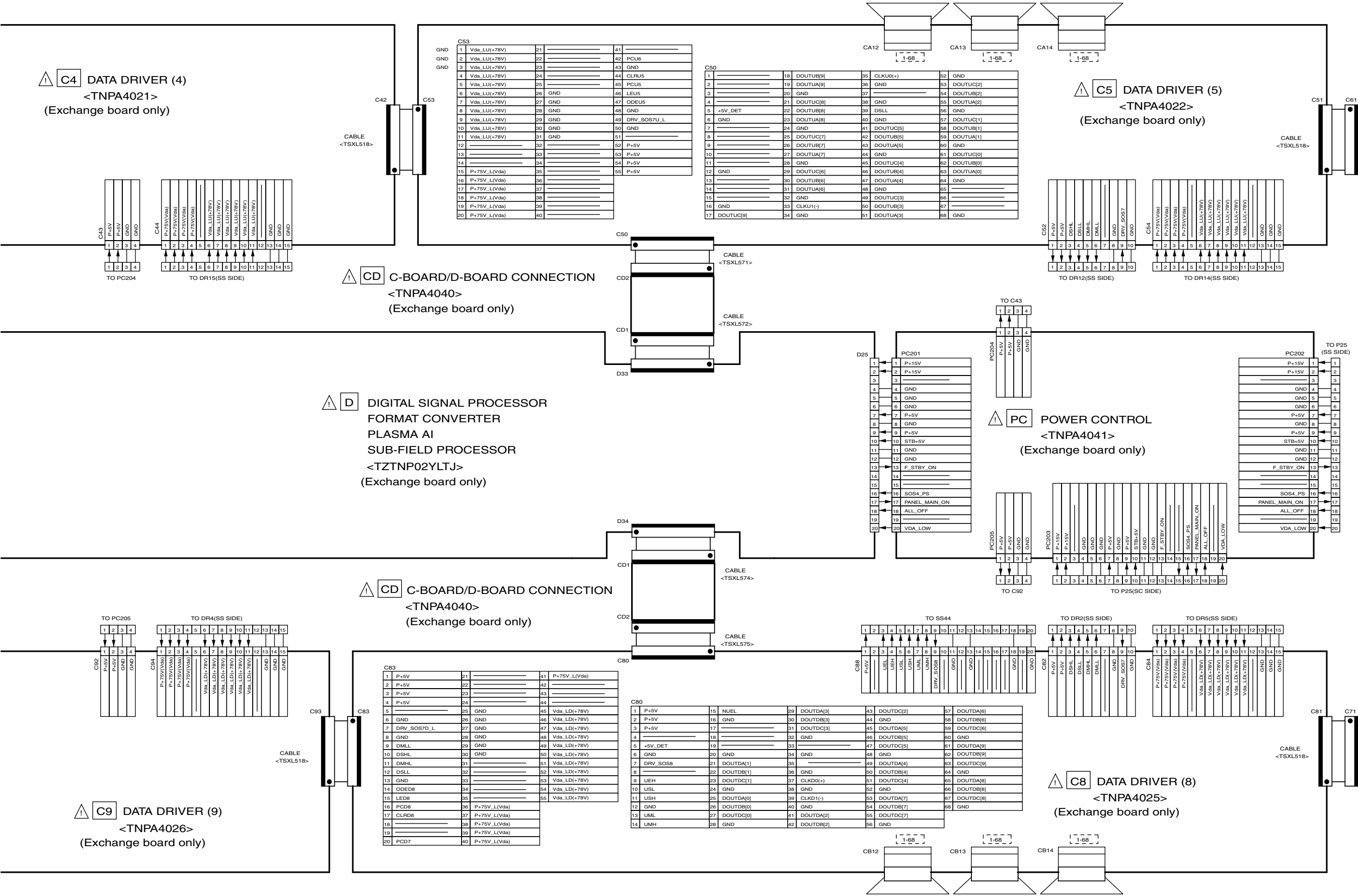
TH-103PF9UK/EK
Interconnection (4 of 8) Diagram



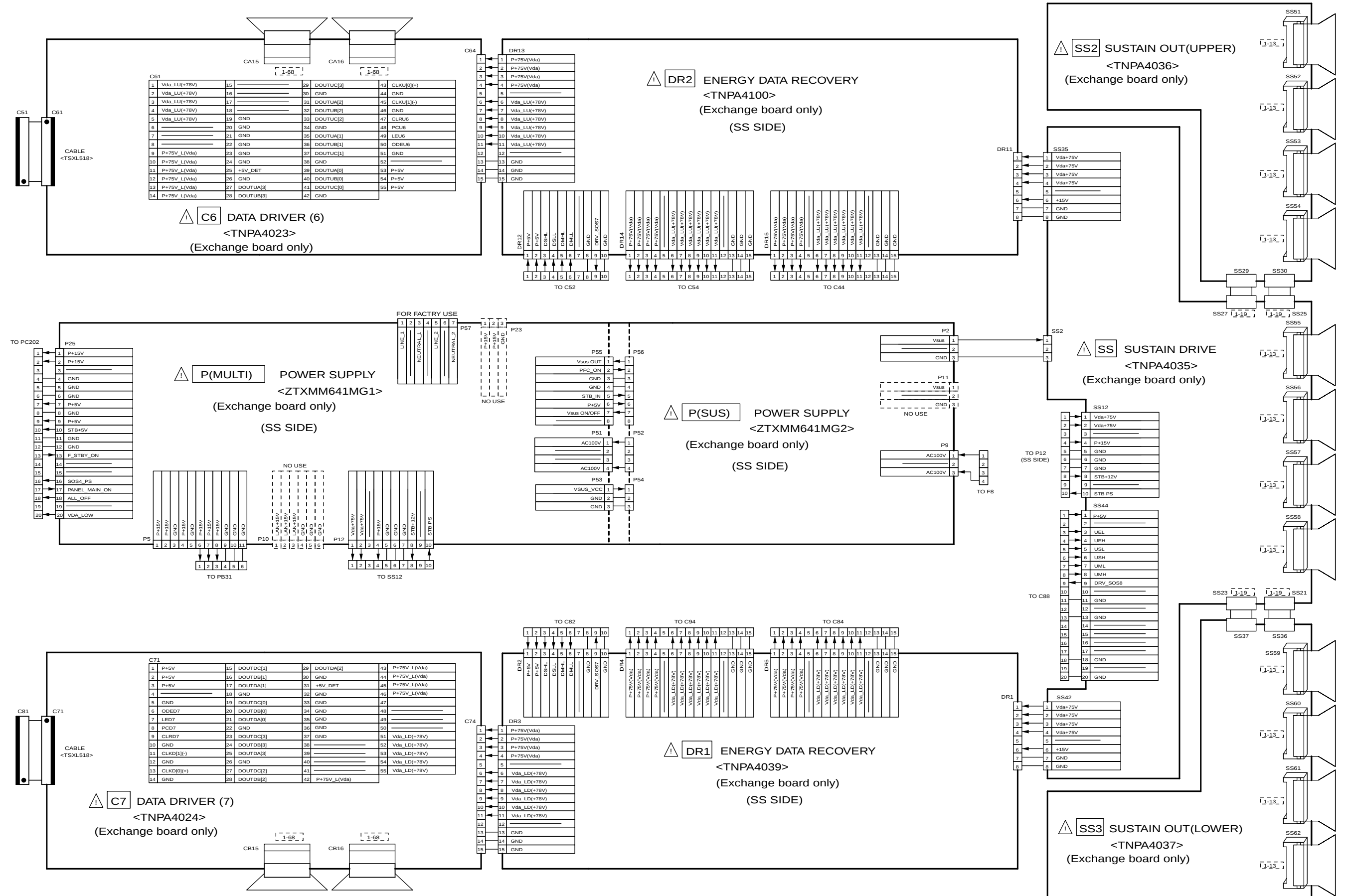
13.7. Interconnection (6 of 8) Diagram



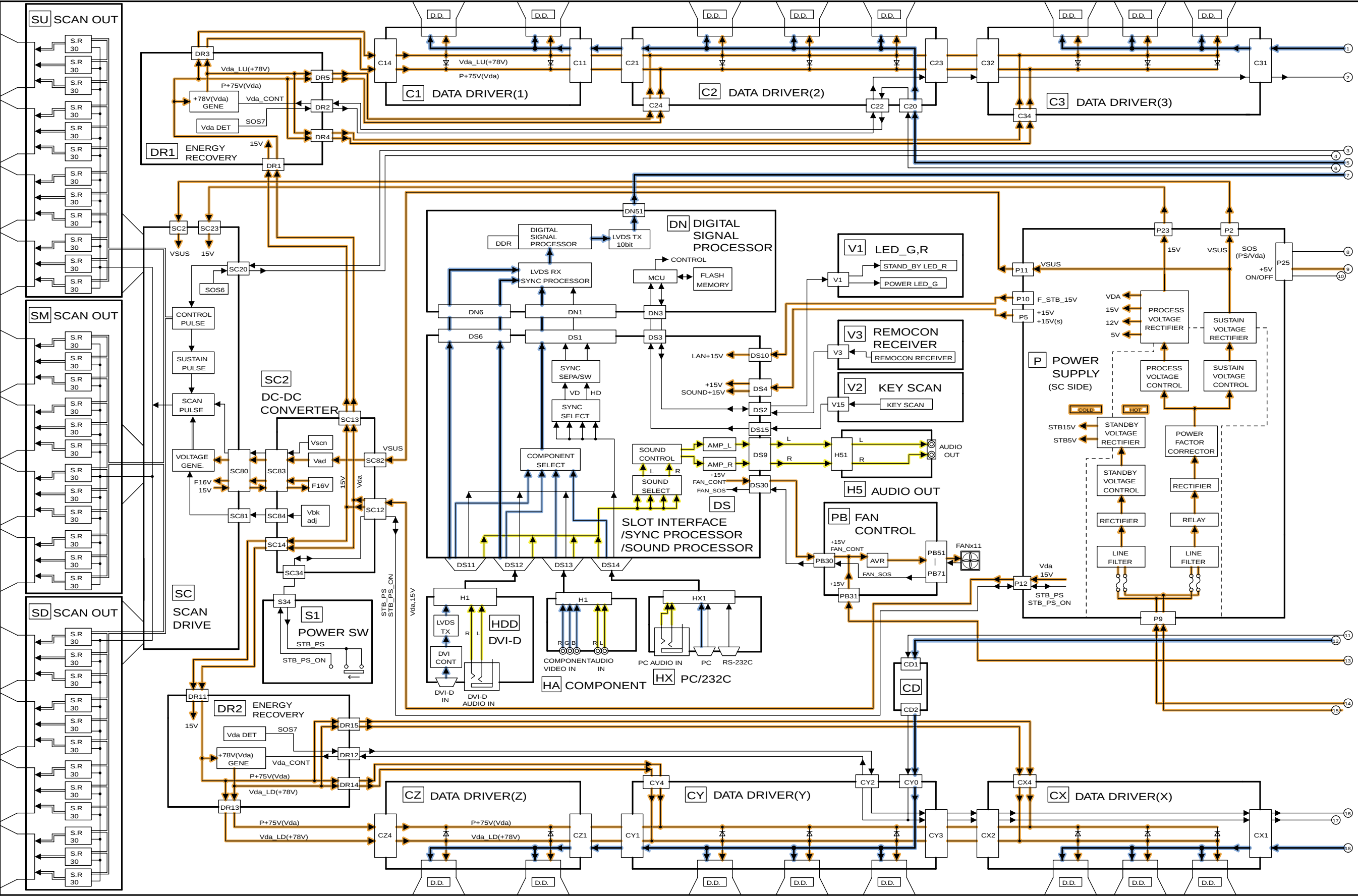
13.8. Interconnection (7 of 8) Diagram



13.9. Interconnection (8 of 8) Diagram

TH-103PF9UK/EK
Interconnection (8 of 8) DiagramTH-103PF9UK/EK
Interconnection (8 of 8) Diagram

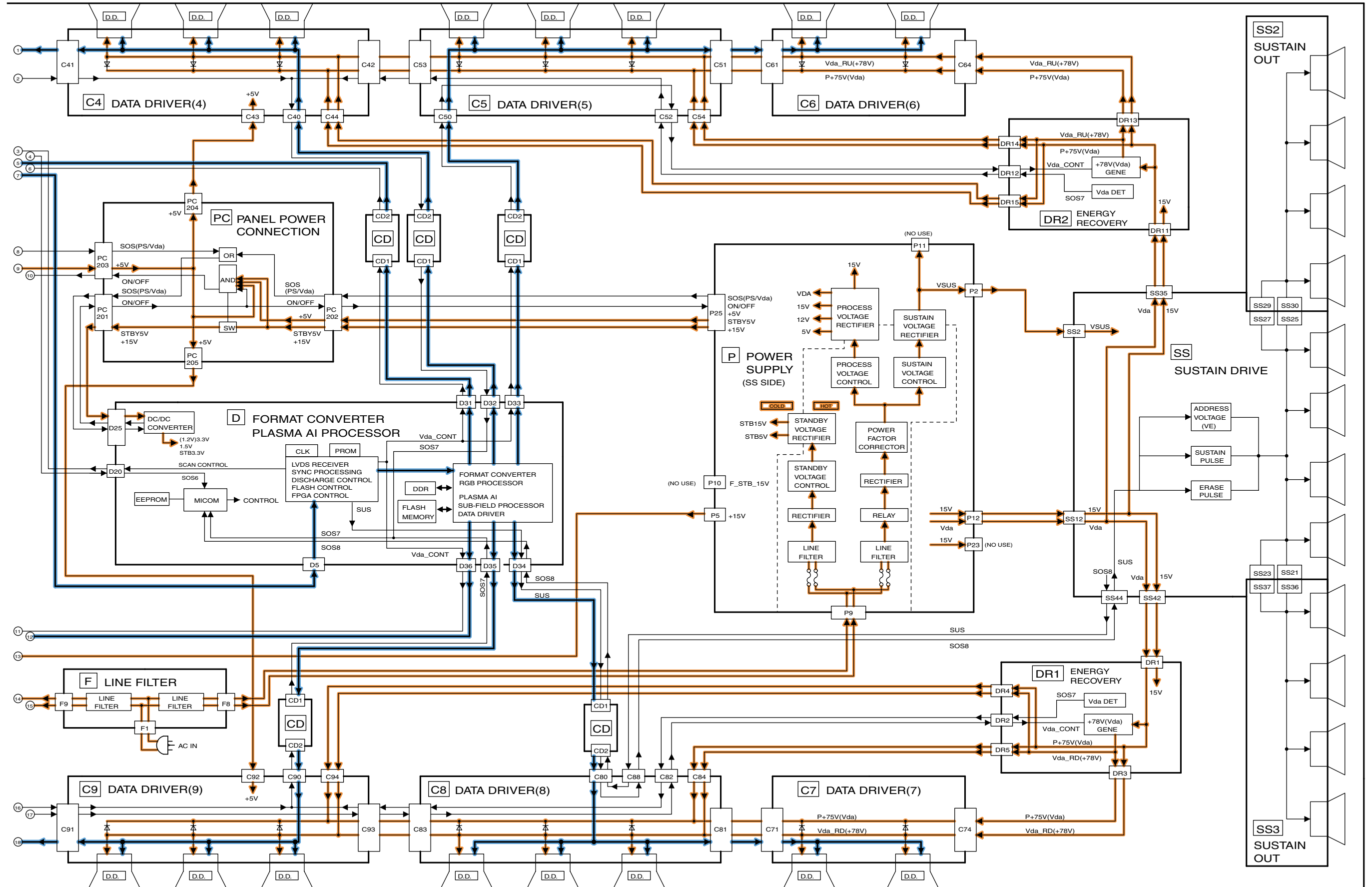
13.10. Main (1 of 2) Block Diagram



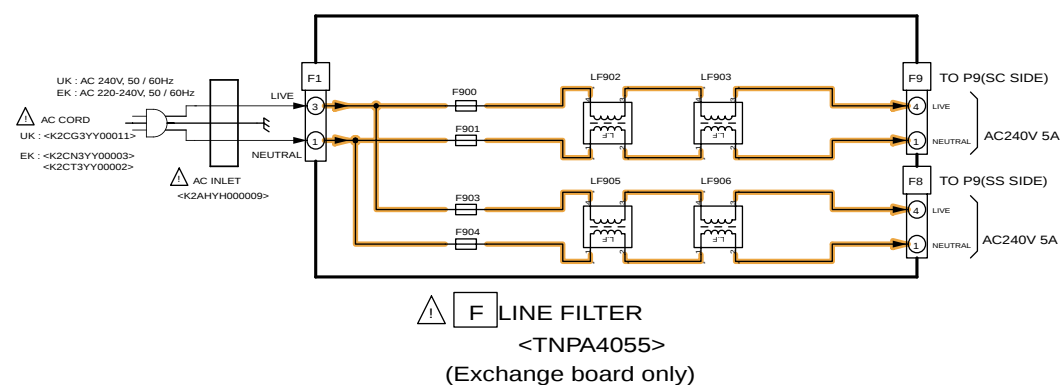
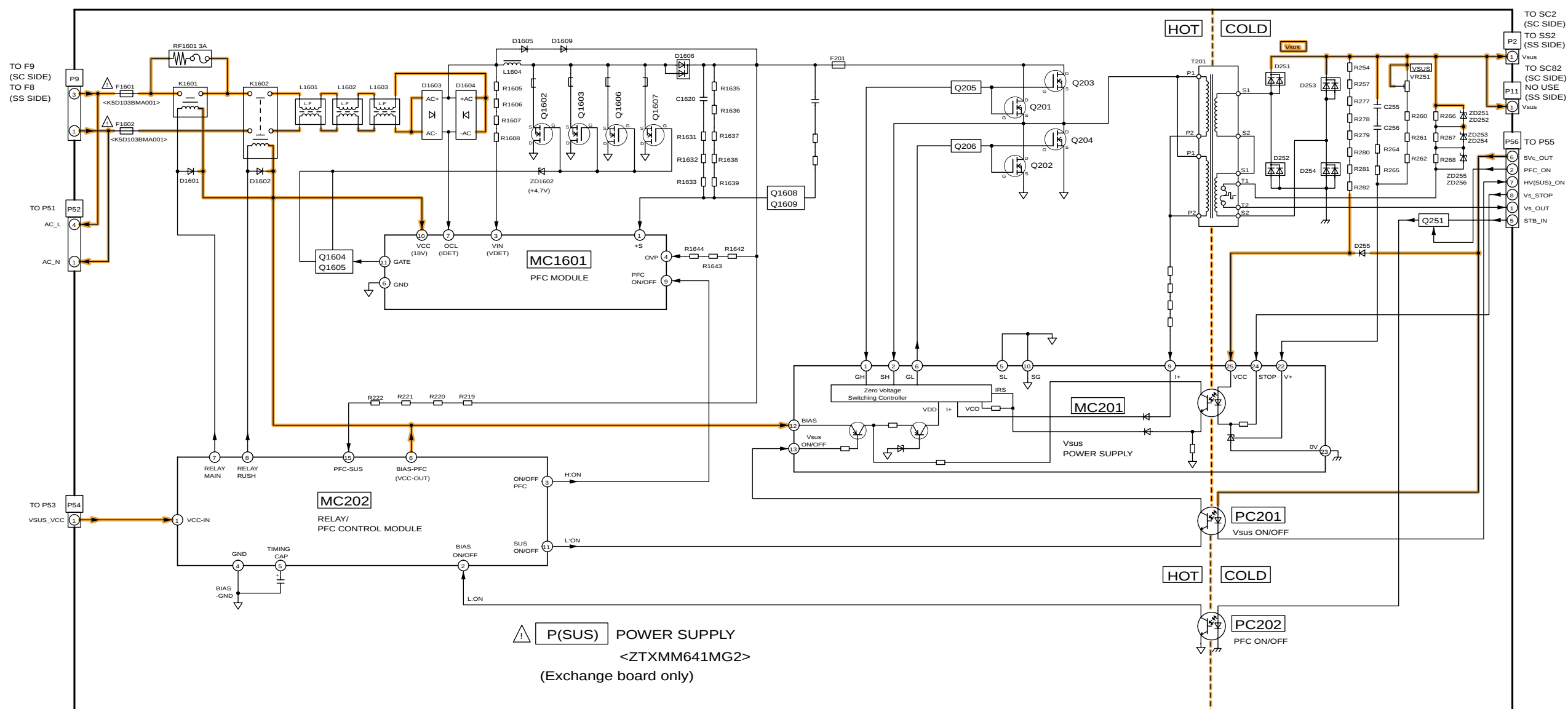
TH-103PF9UK/EK
Main (1 of 2) Block Diagram

TH-103PF9UK/EK
Main (1 of 2) Block Diagram

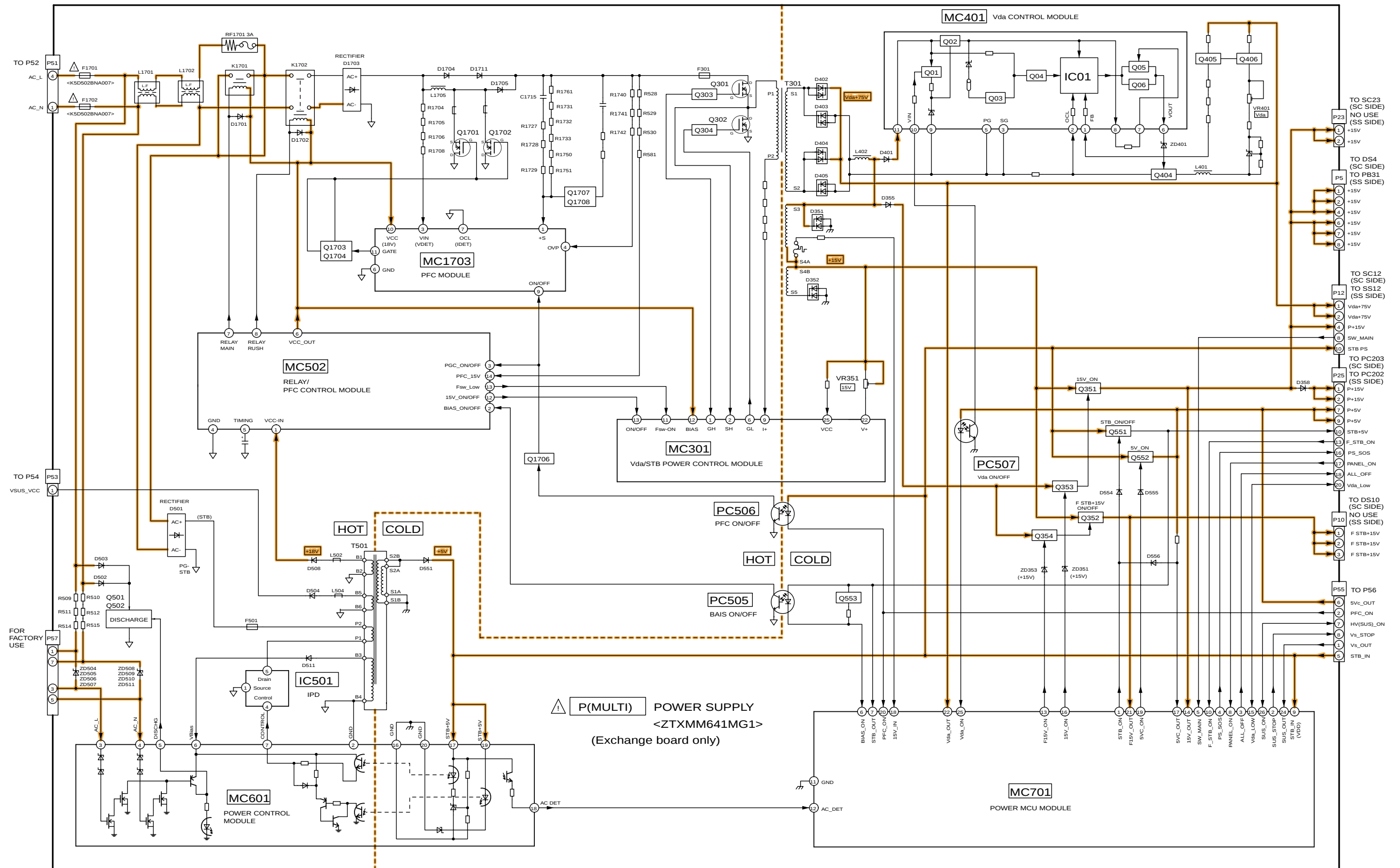
13.11. Main (2 of 2) Block Diagram



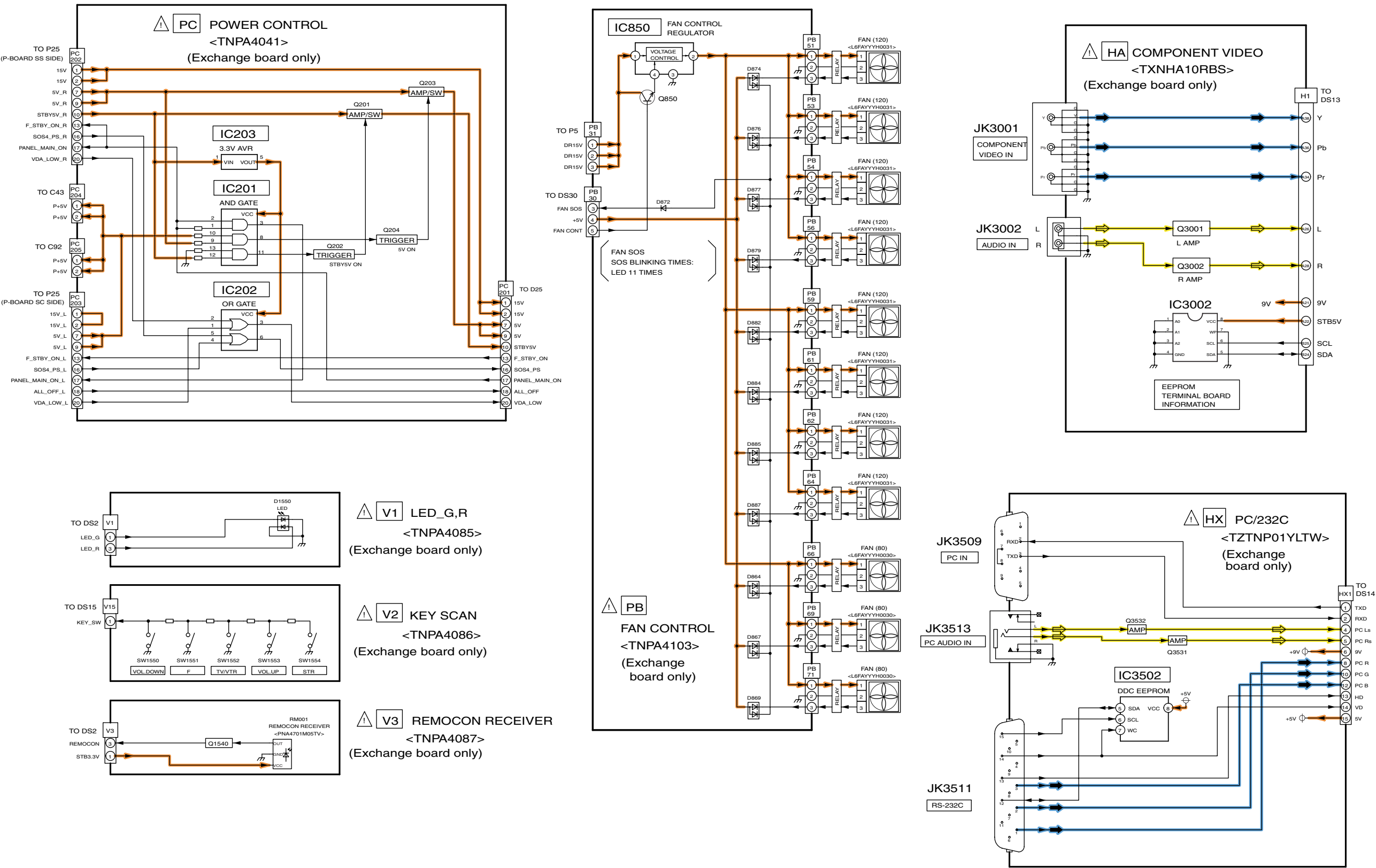
13.12. P-Board (1 of 2) and F-Board Block Diagram



13.13. P-Board (2 of 2) Block Diagram



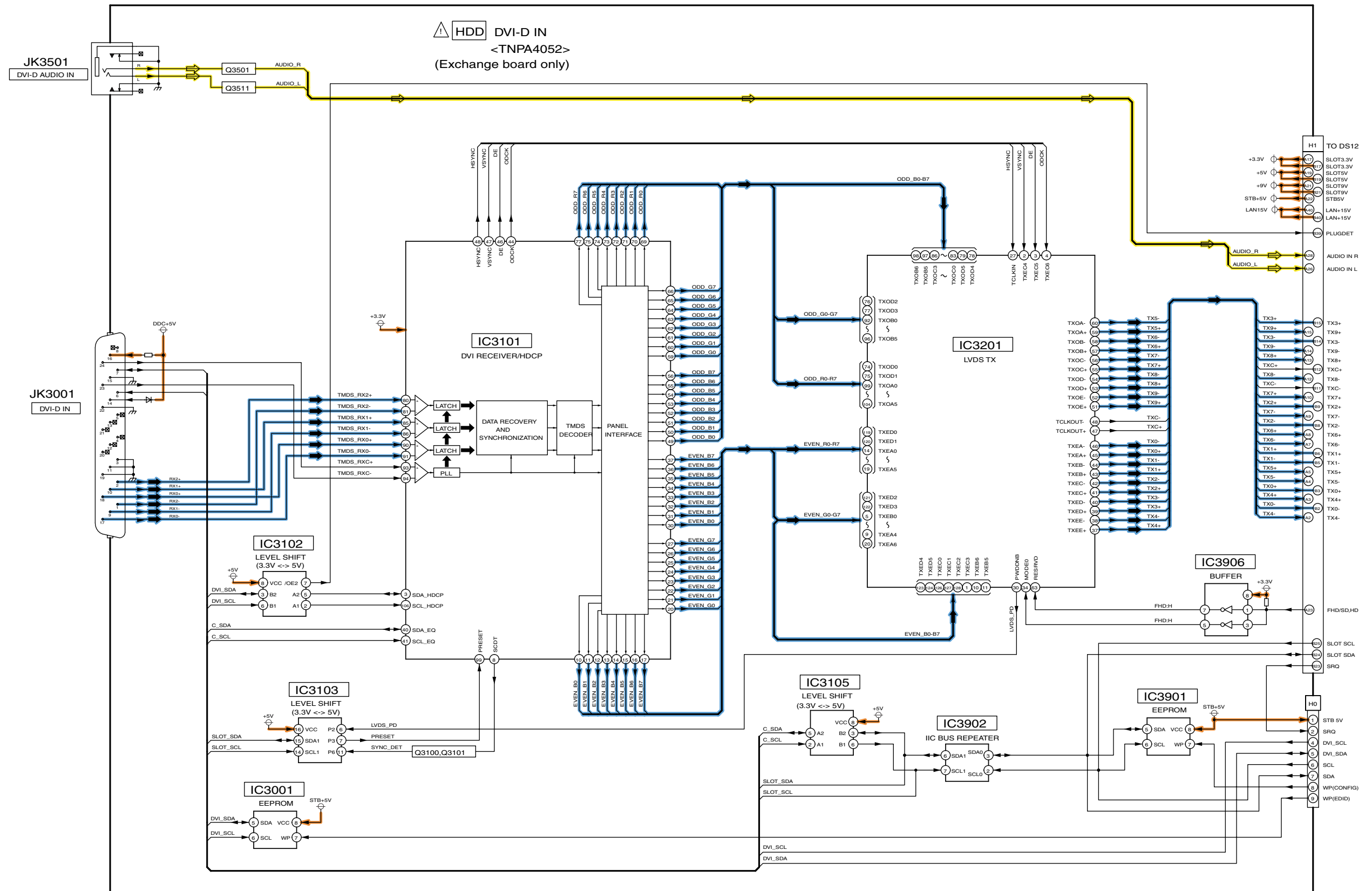
13.14. HA, HX, PC, PB, V1, V2 and V3-Board Block Diagram



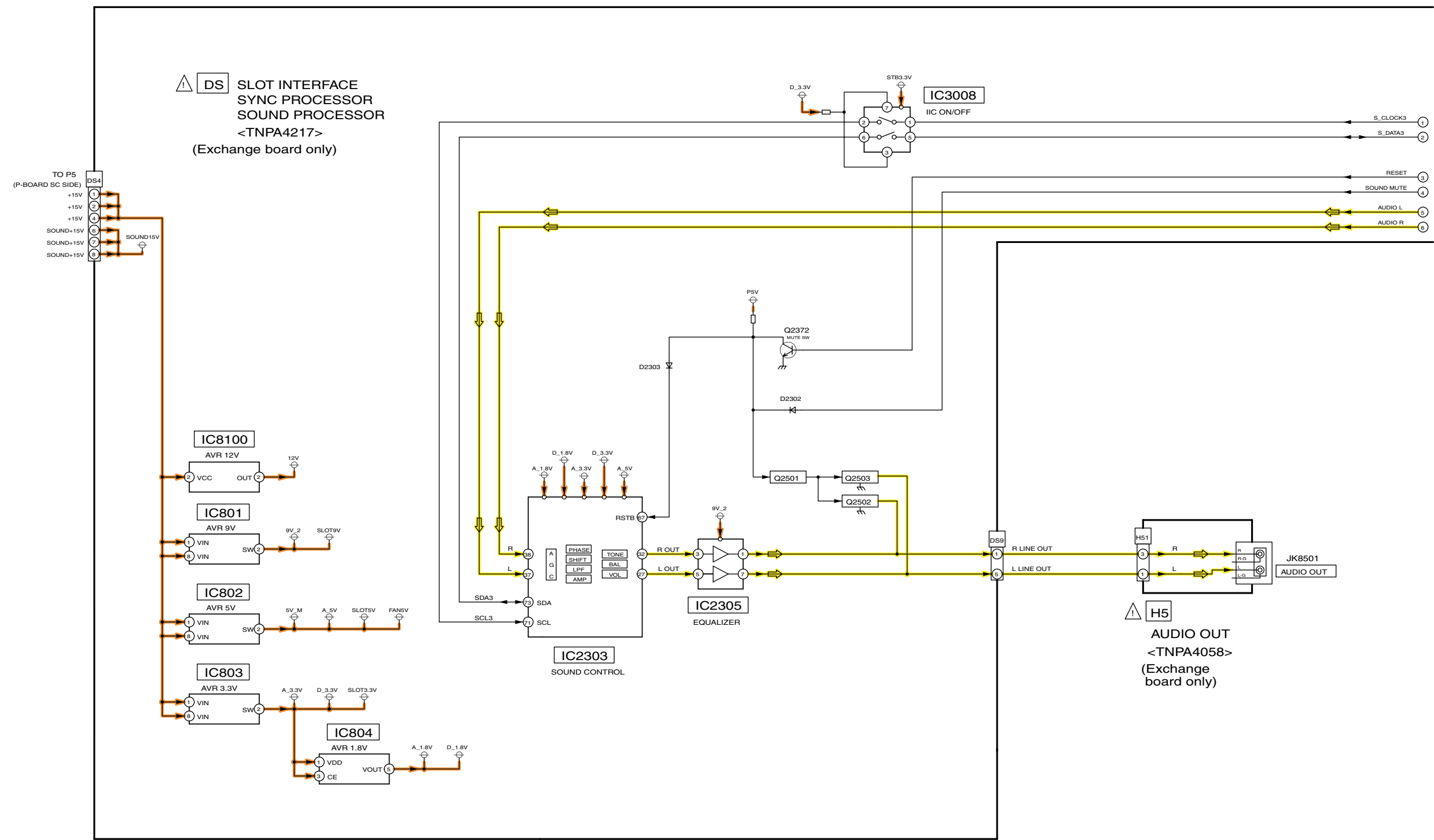
TH-103PF9UK/EK
HA, HX, PC, PB, V1, V2 and V3 Block Diagram

TH-103PF9UK/EK
HA, HX, PC, PB, V1, V2 and V3 Block Diagram

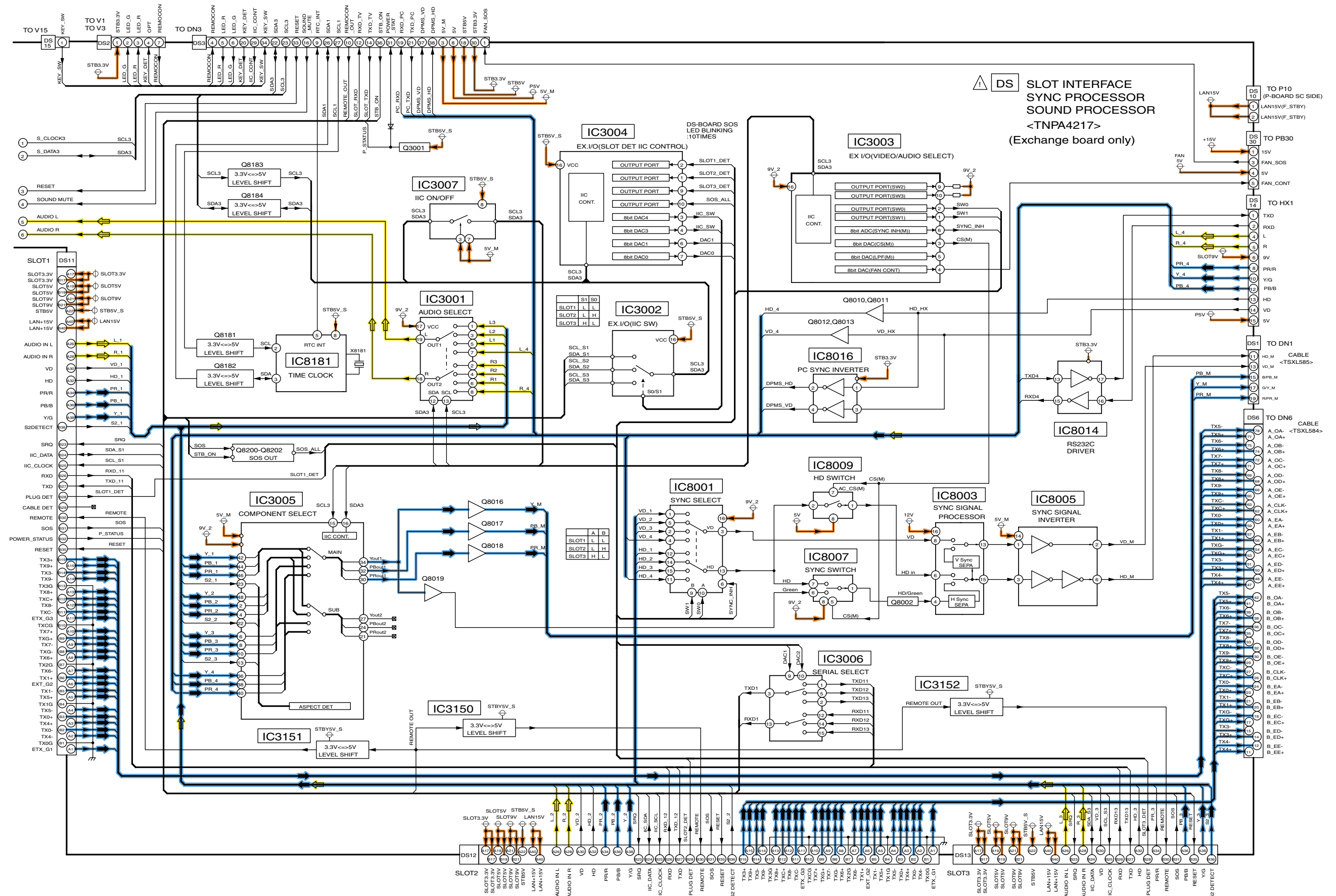
13.15. HDD-Board Block Diagram



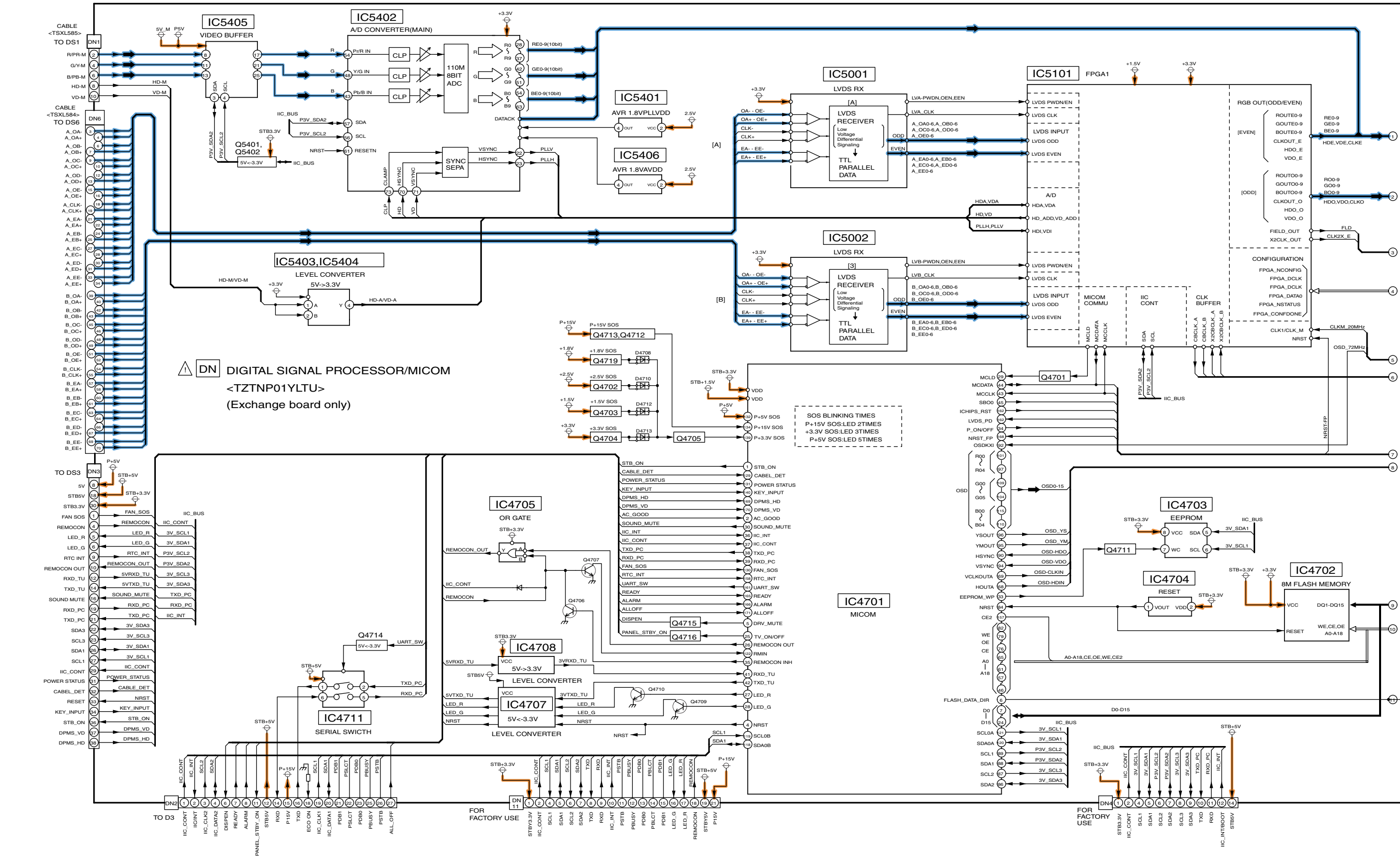
13.16. DS-Board (1 of 2) and H3-Board Block Diagram



13.17. DS-Board (2 of 2) Block Diagram



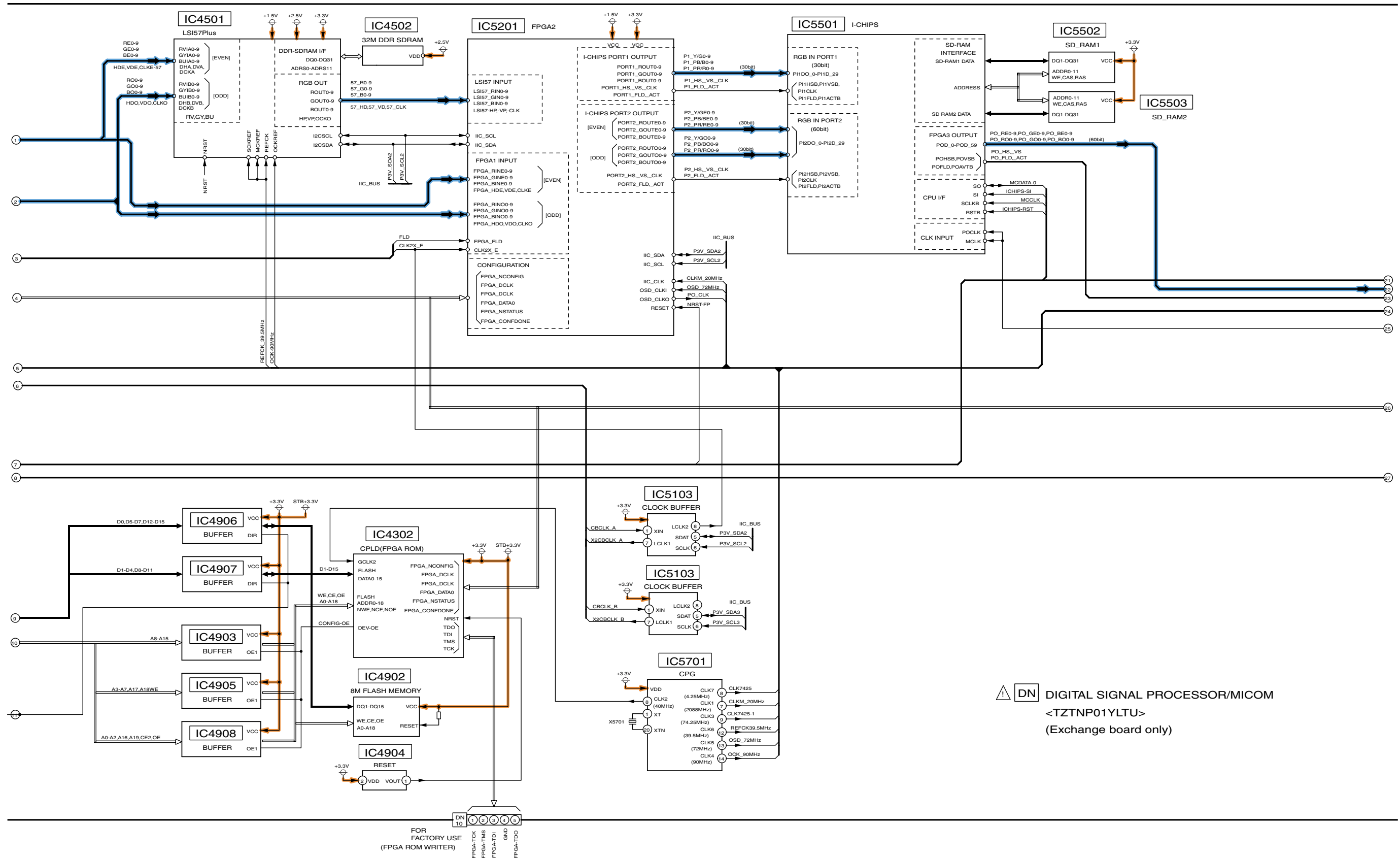
13.18. DN-Board (1 of 3) Block Diagram



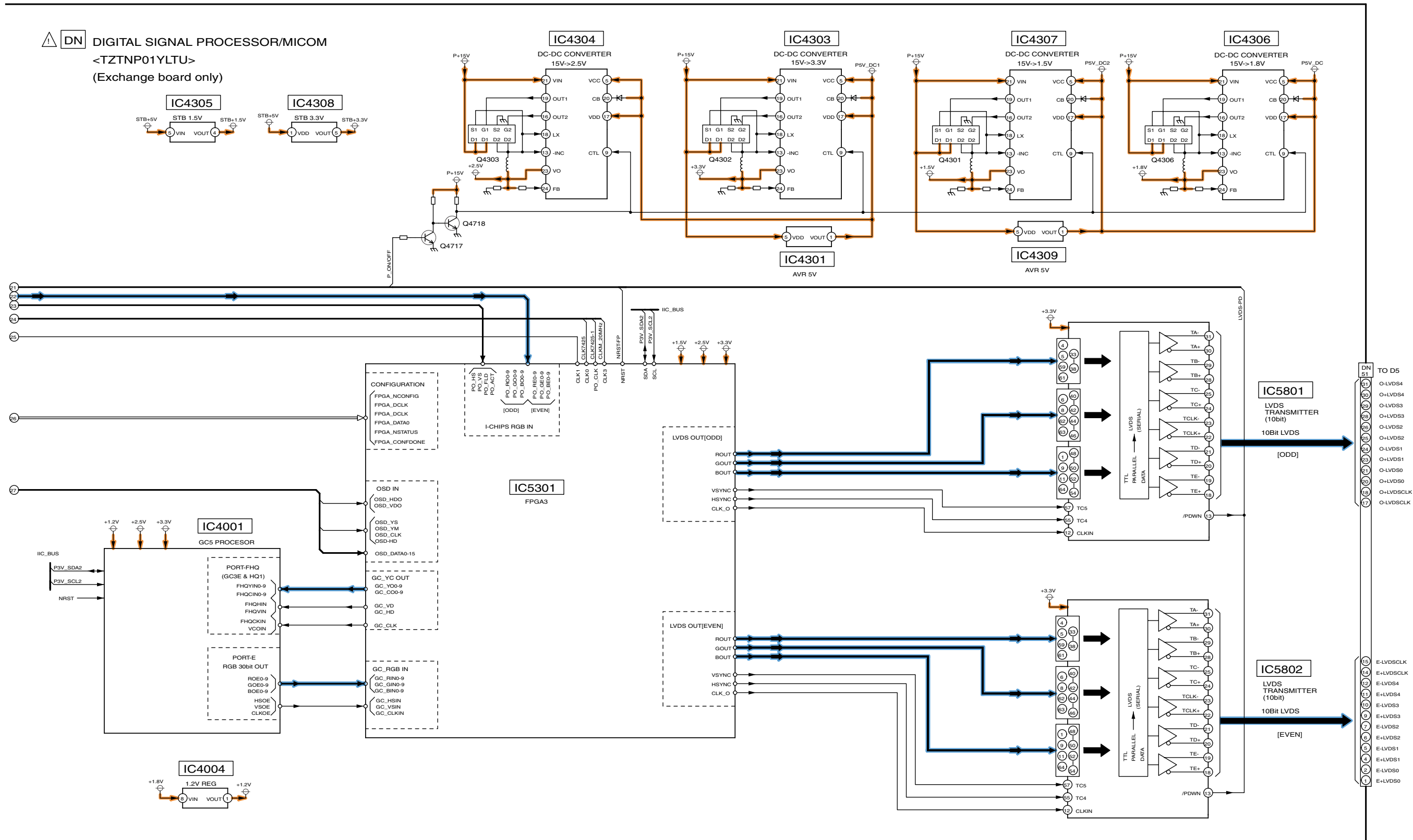
TH-103PF9UK/EK
DN-Board (1 of 3) Block Diagram

TH-103PF9UK/EK
DN-Board (1 of 3) Block Diagram

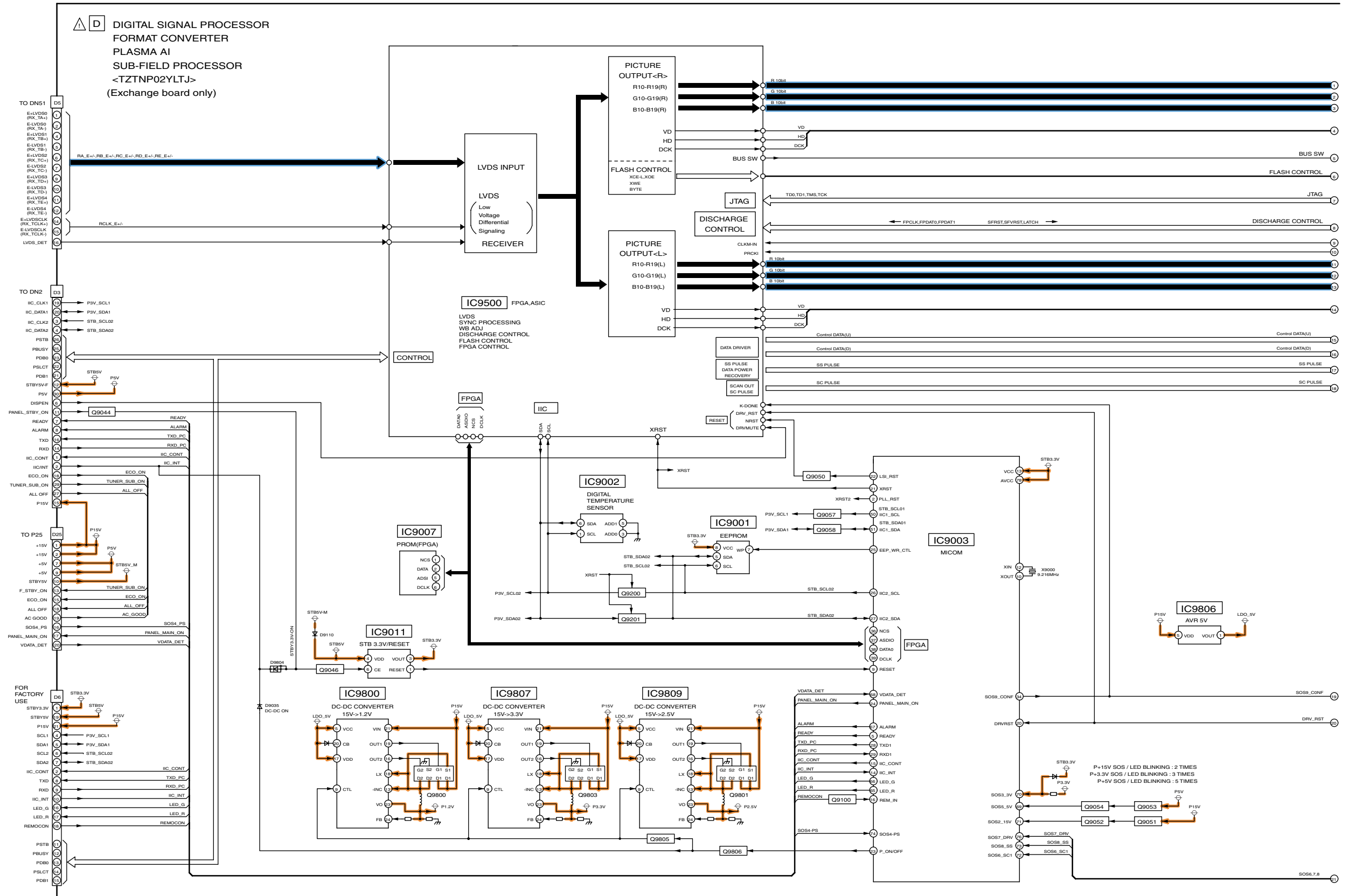
13.19. DN-Board (2 of 3) Block Diagram



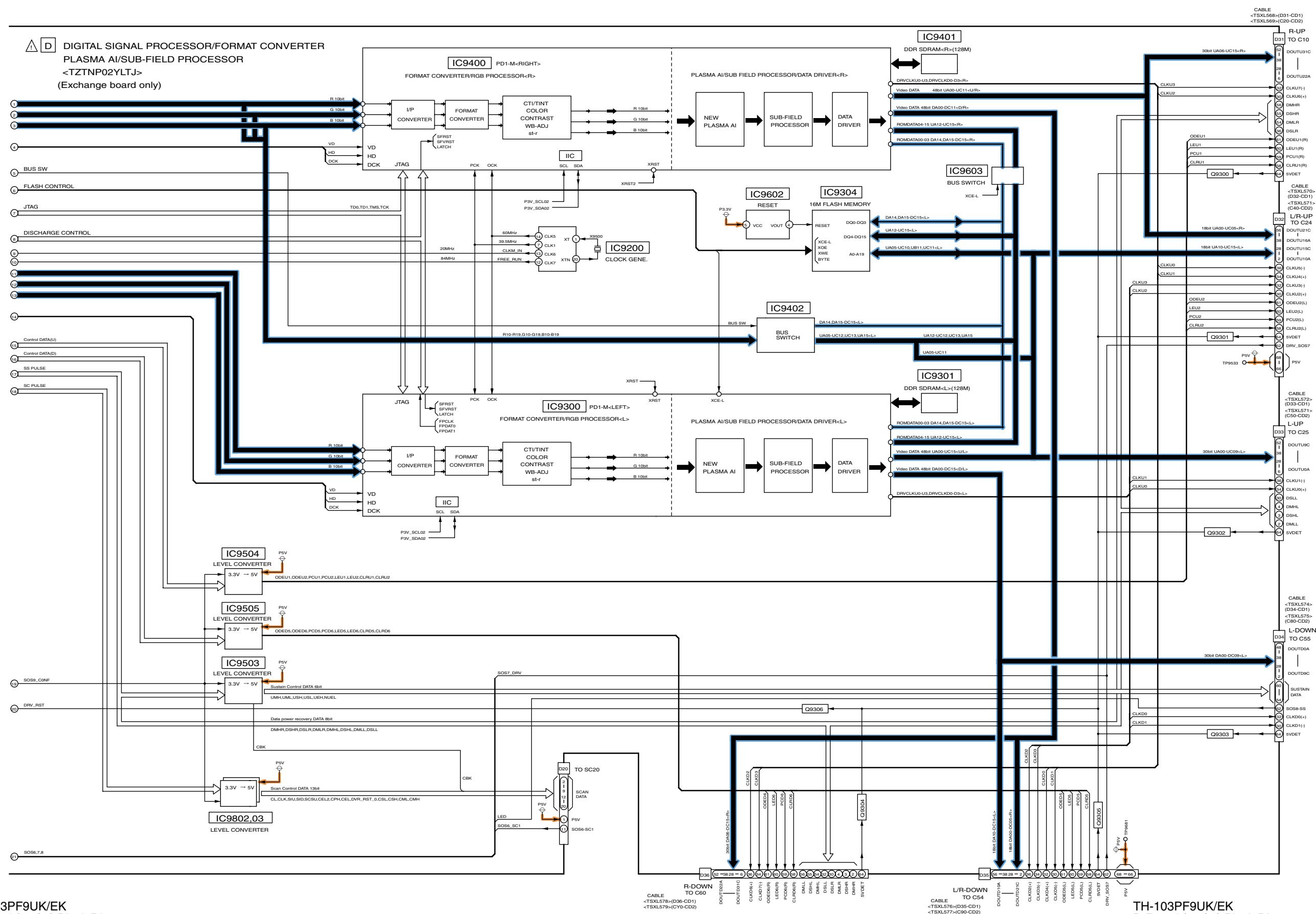
13.20. DN-Board (3 of 3) Block Diagram



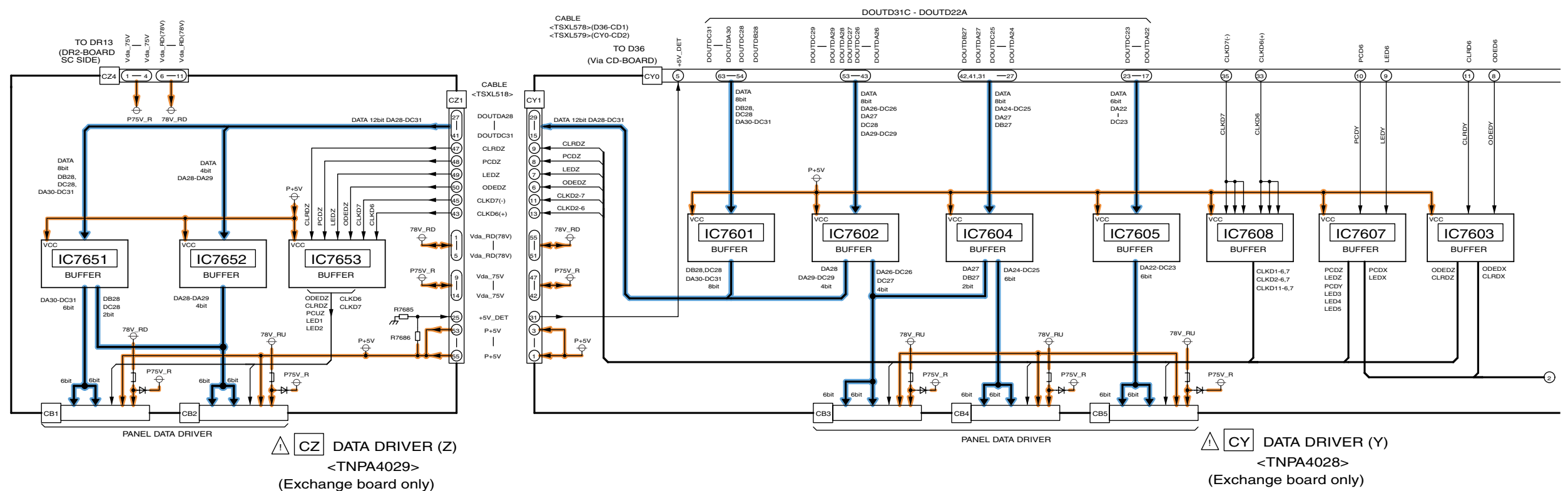
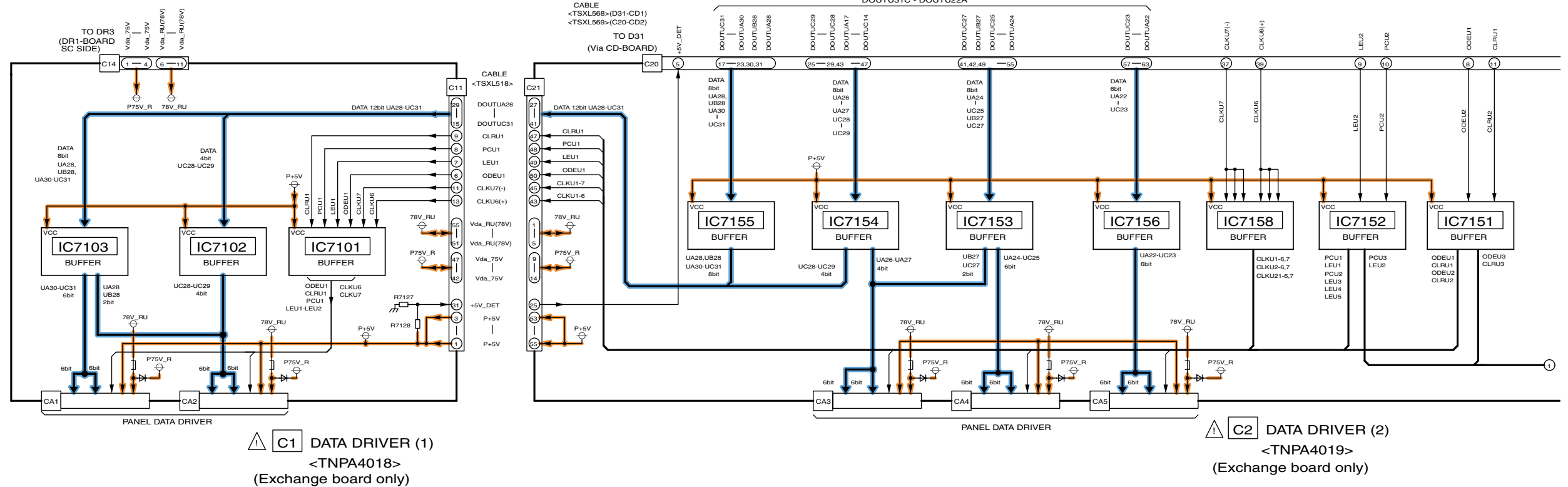
13.21. D-Board (1 of 2) Block Diagram



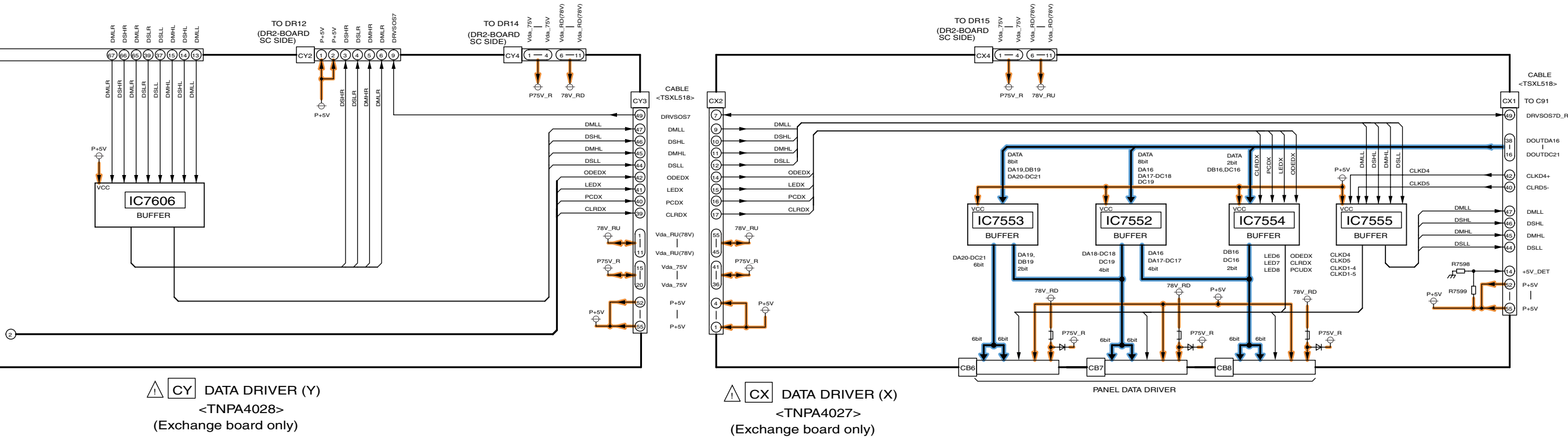
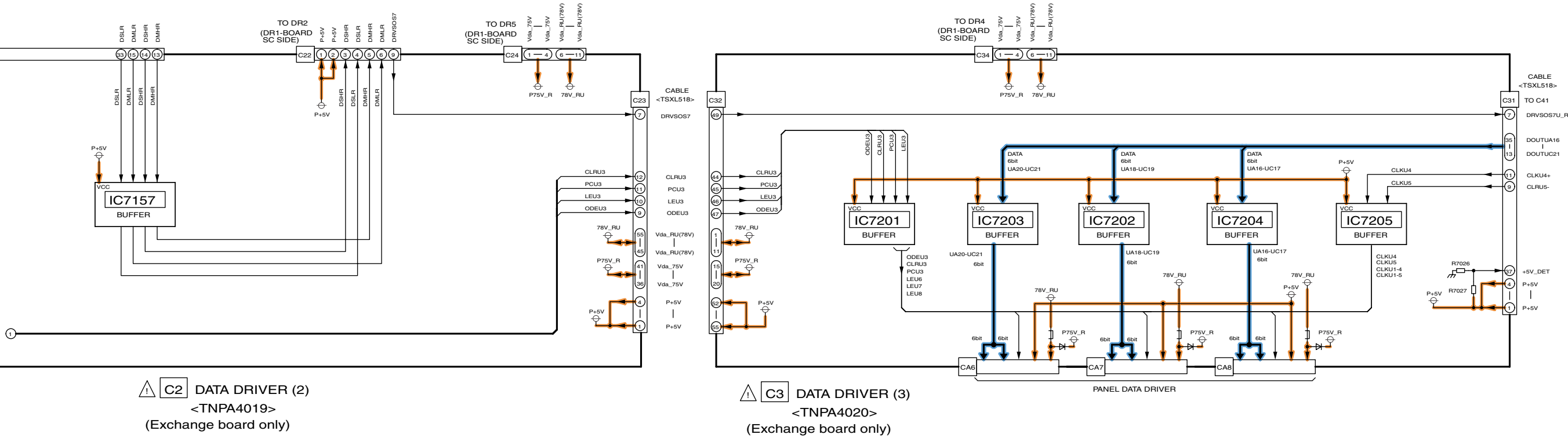
13.22. D-Board (2 of 2) Block Diagram



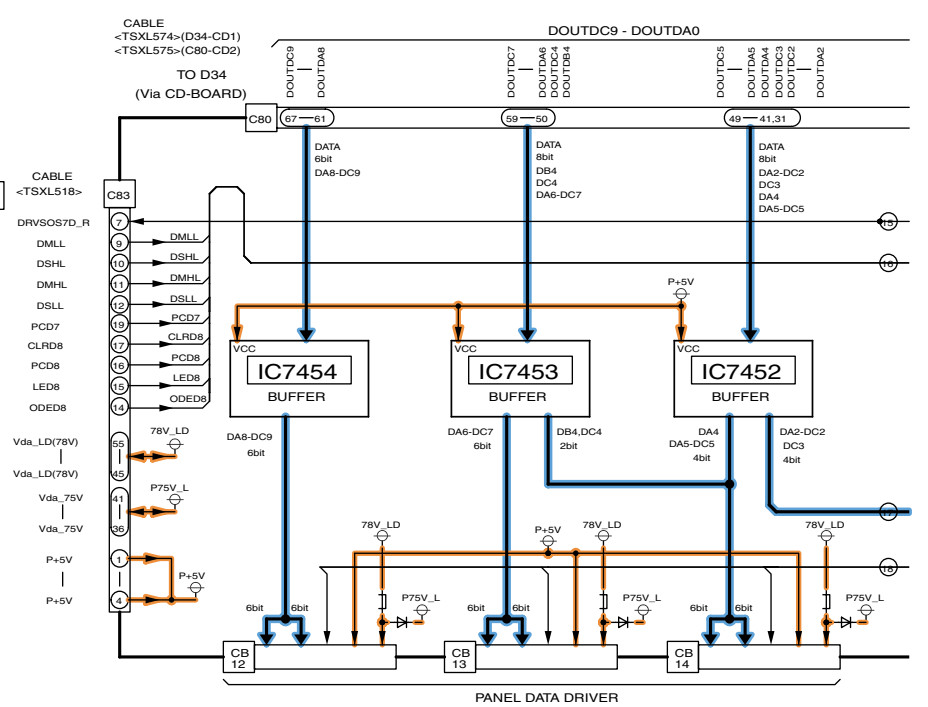
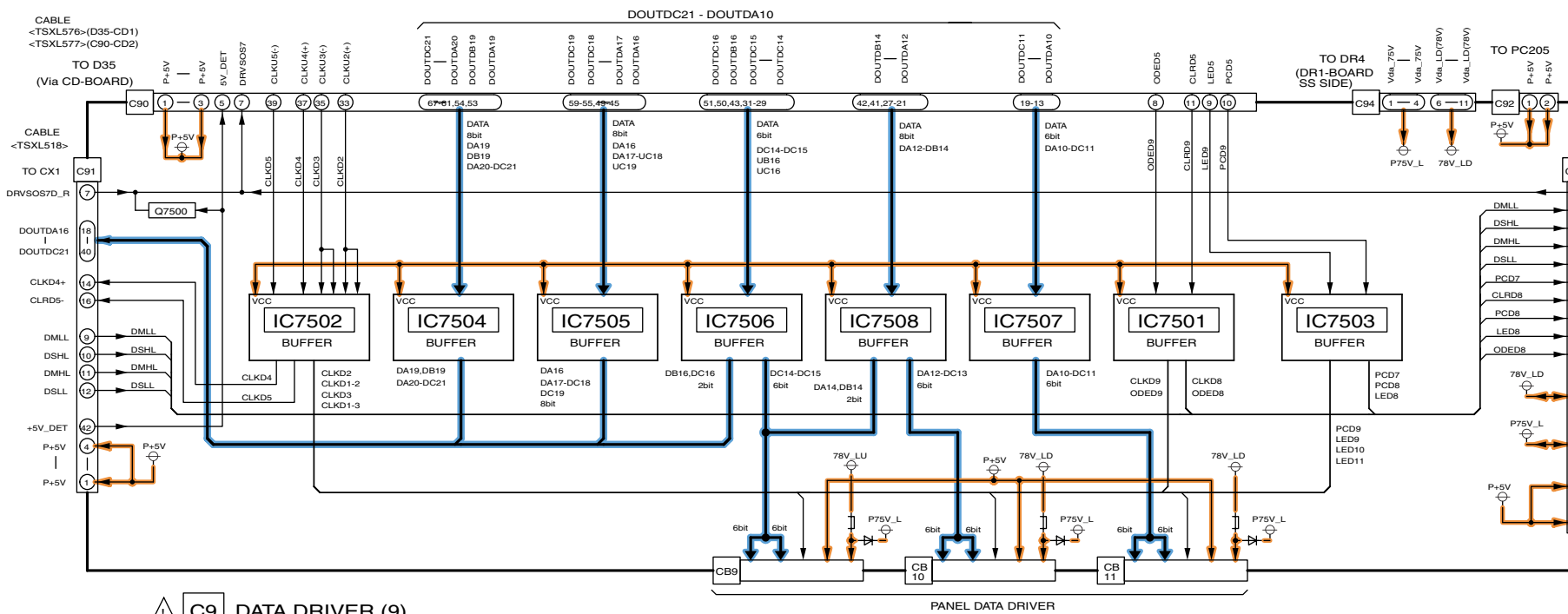
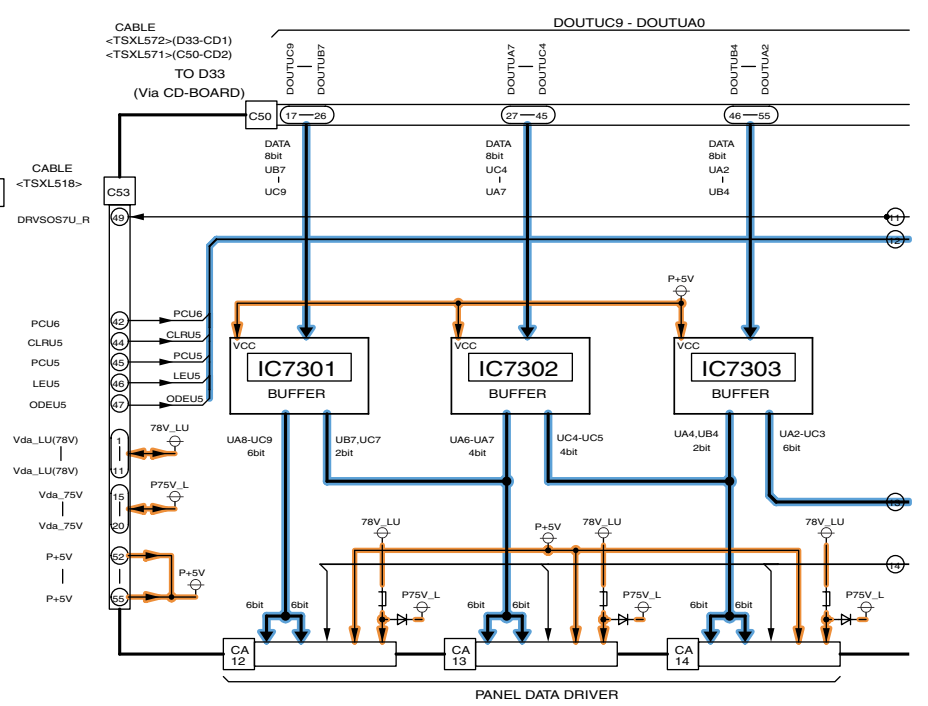
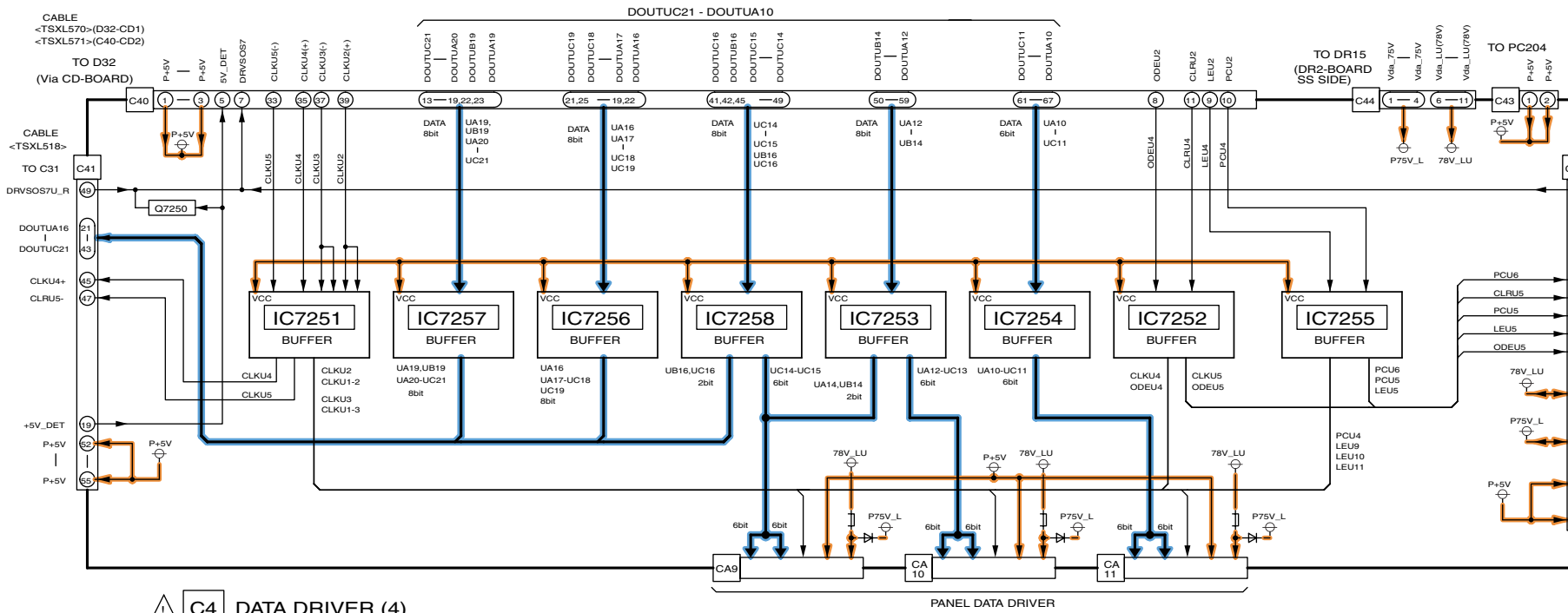
13.23. C1, C2, CY and CZ-Board Block Diagram



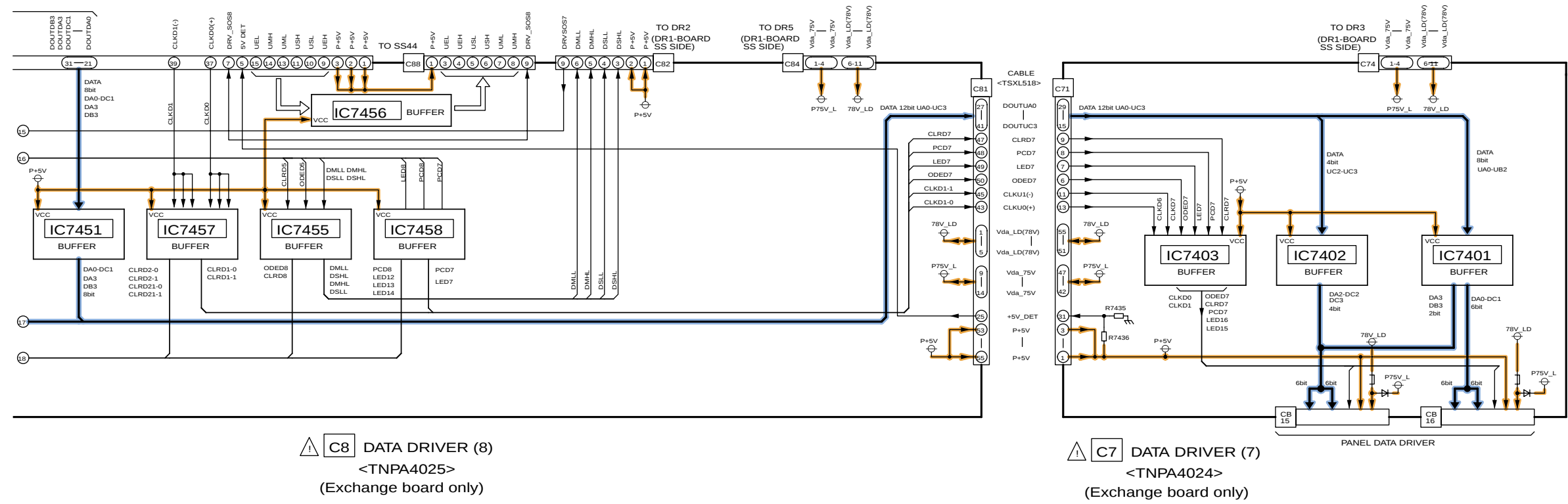
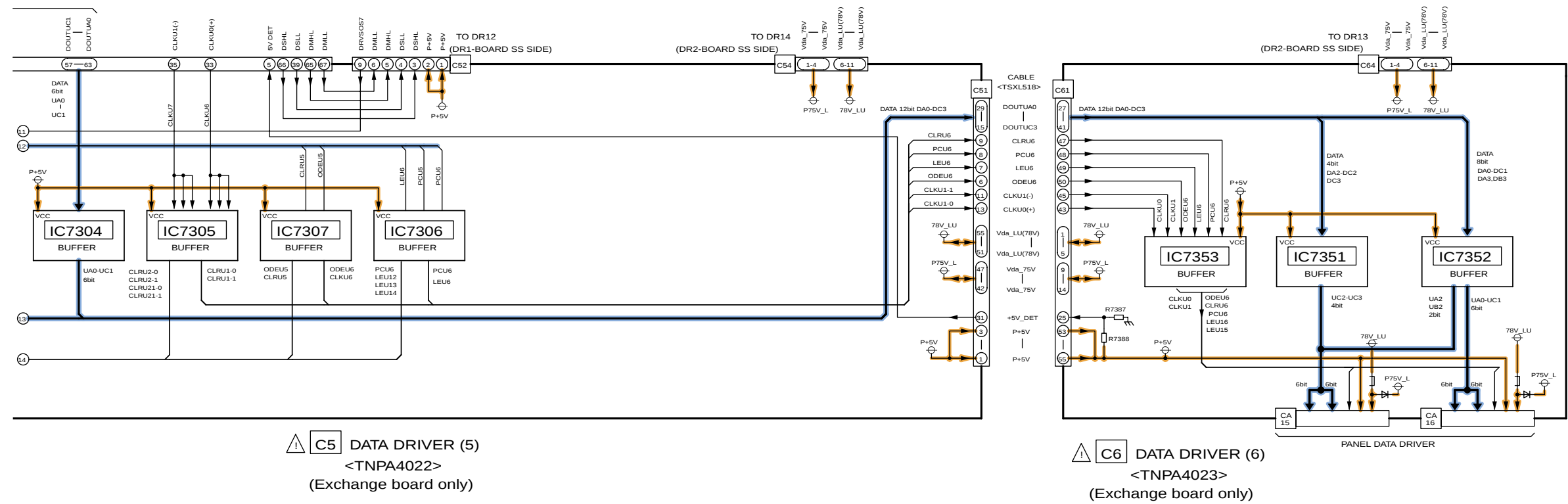
13.24. C2, C3, CX and CY-Board Block Diagram



13.25. C4, C5, C8 and C9-Board Block Diagram



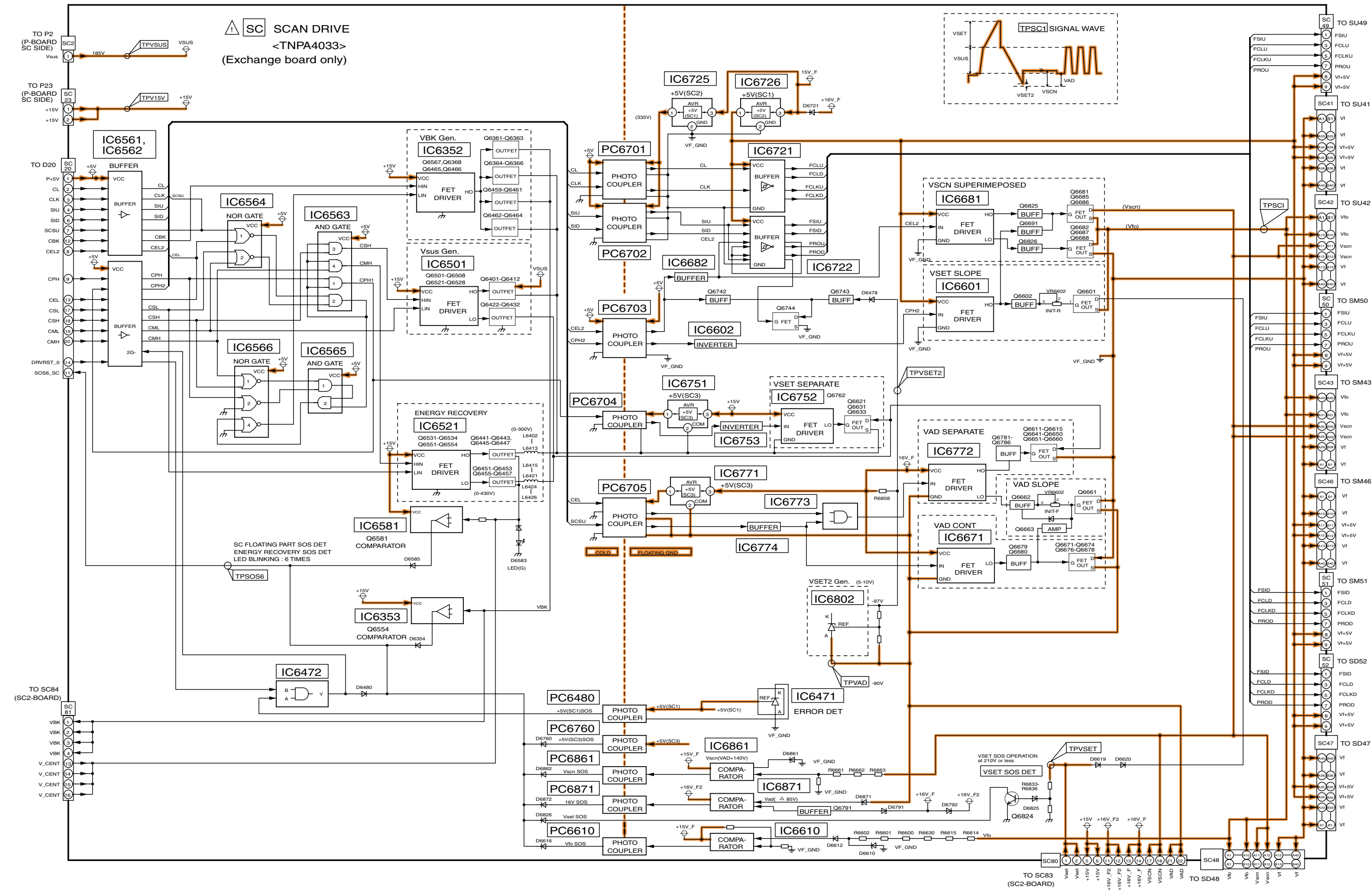
13.26. C5, C6, C7 and C8-Board Block Diagram



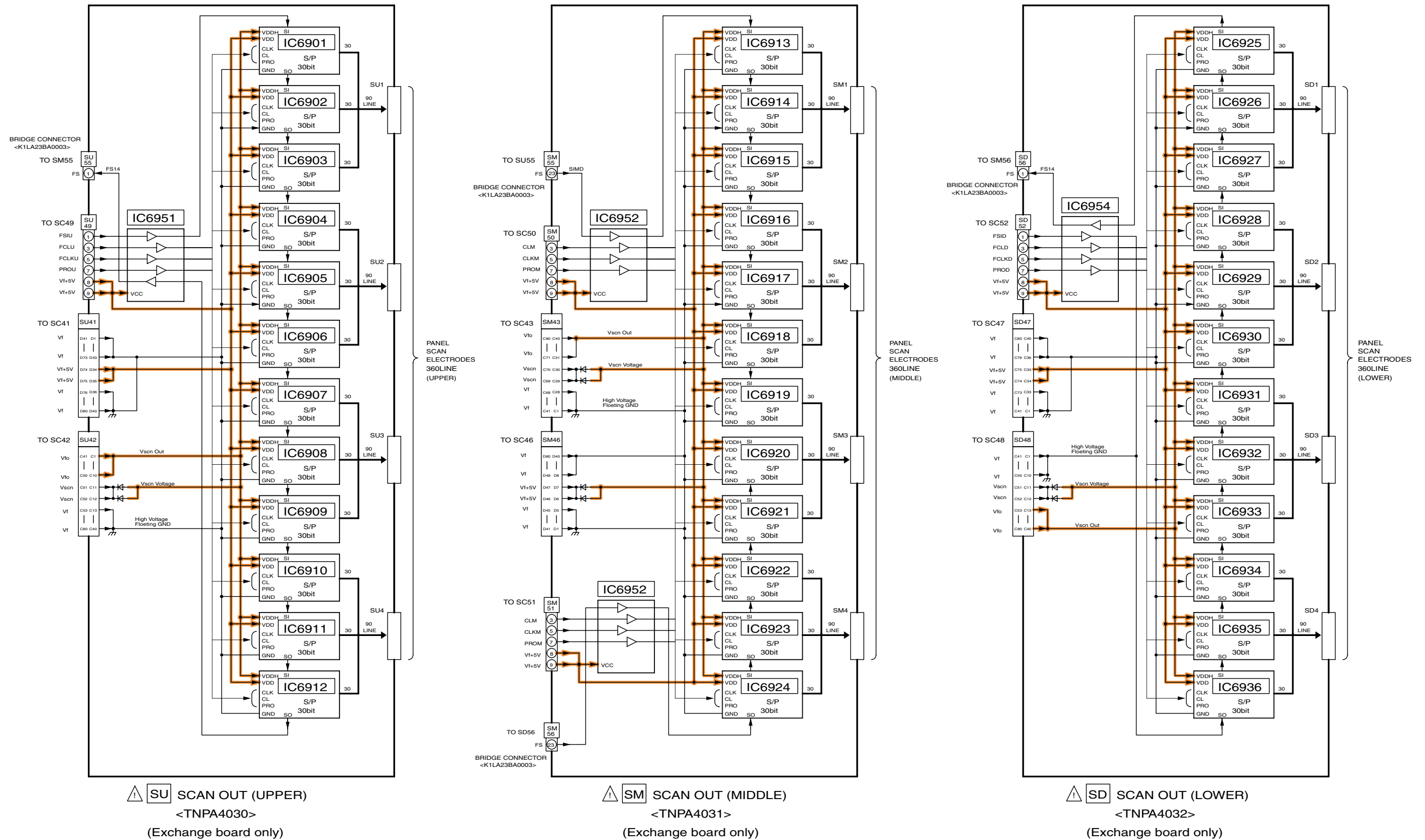
 SC2 DC-DC CONVERTER
FOR SCAN DRIVE
<TNPA4034>
(Exchange board only)



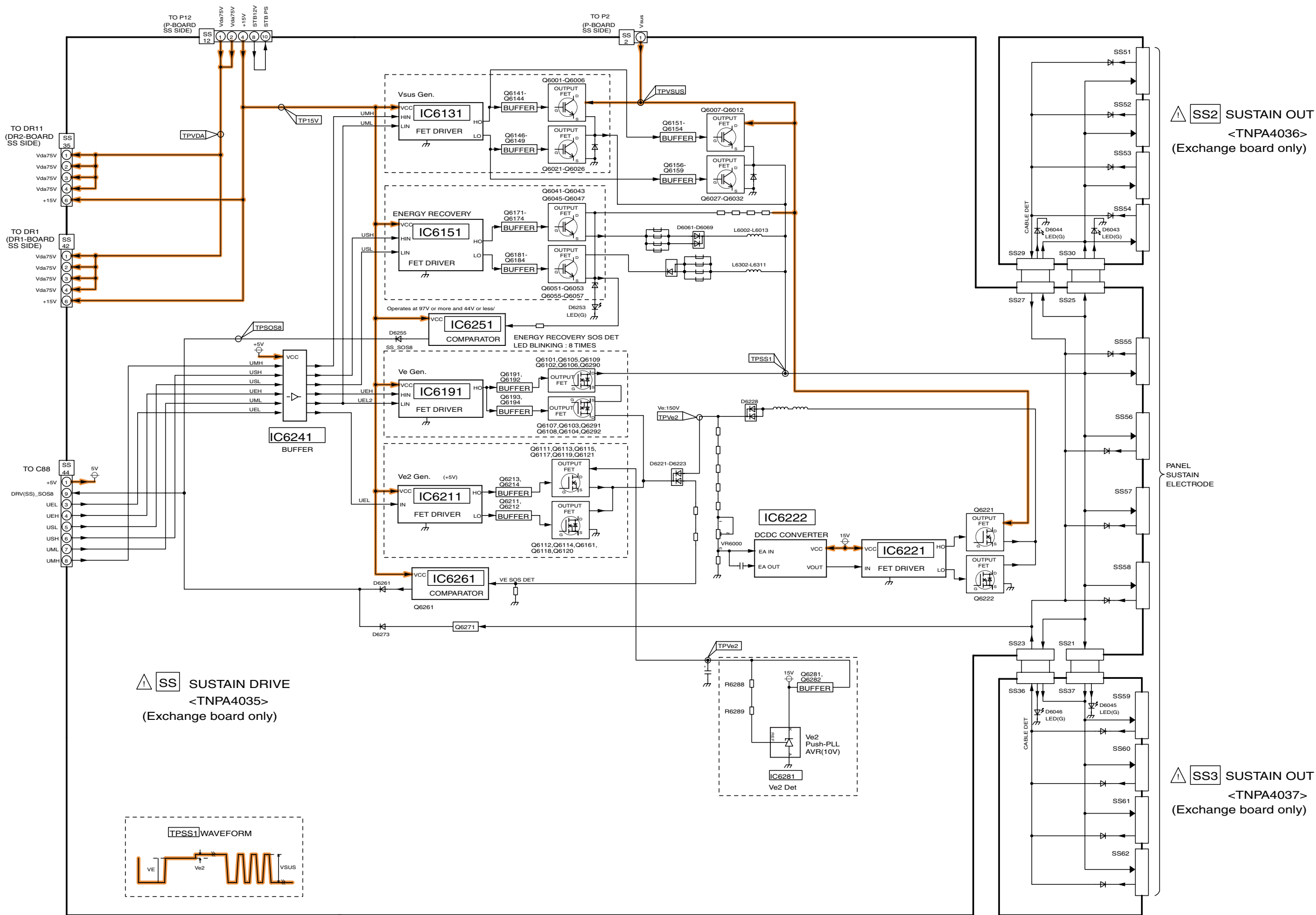
13.28. SC-Board Block Diagram



13.29. SU, SM and SD-Board Block Diagram



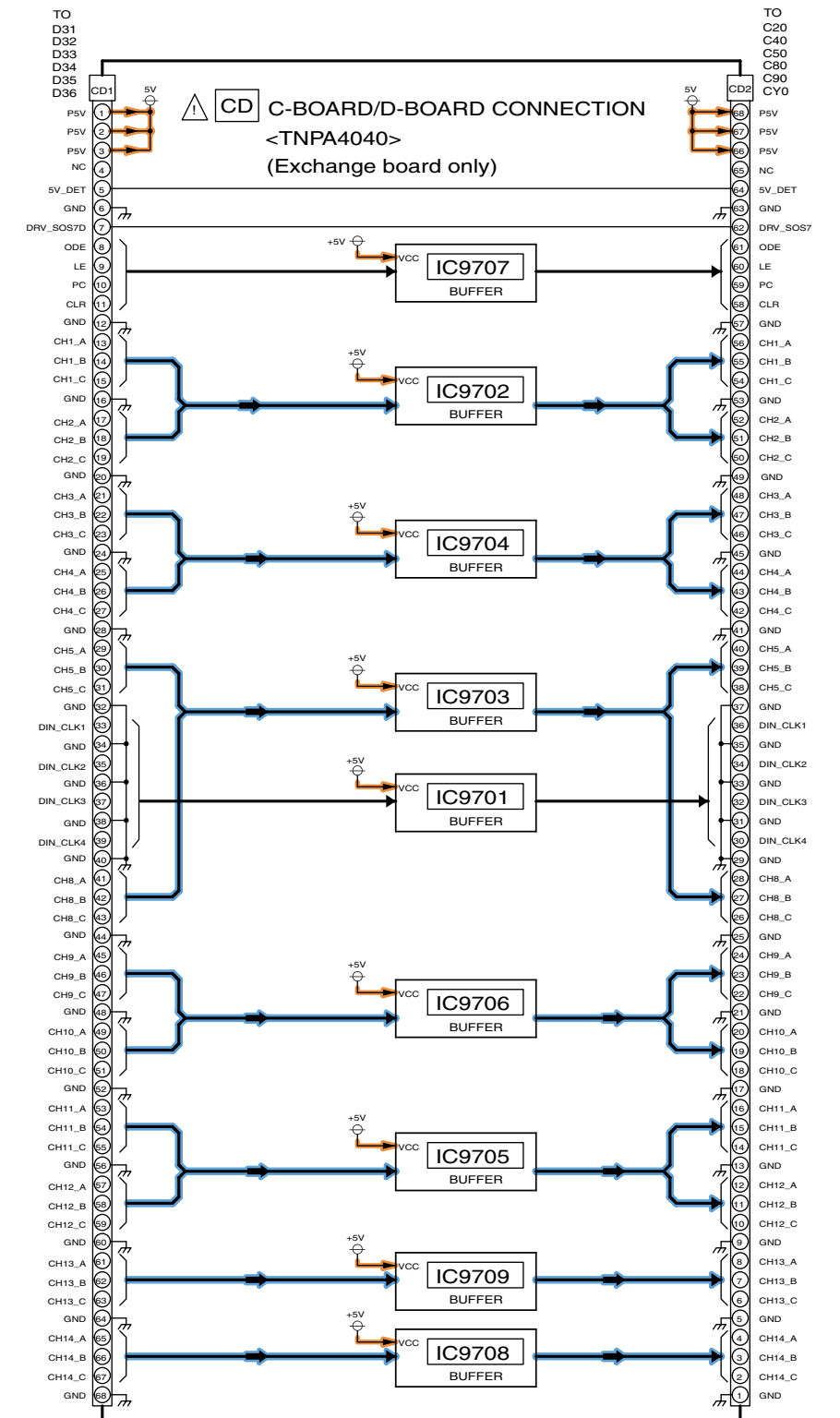
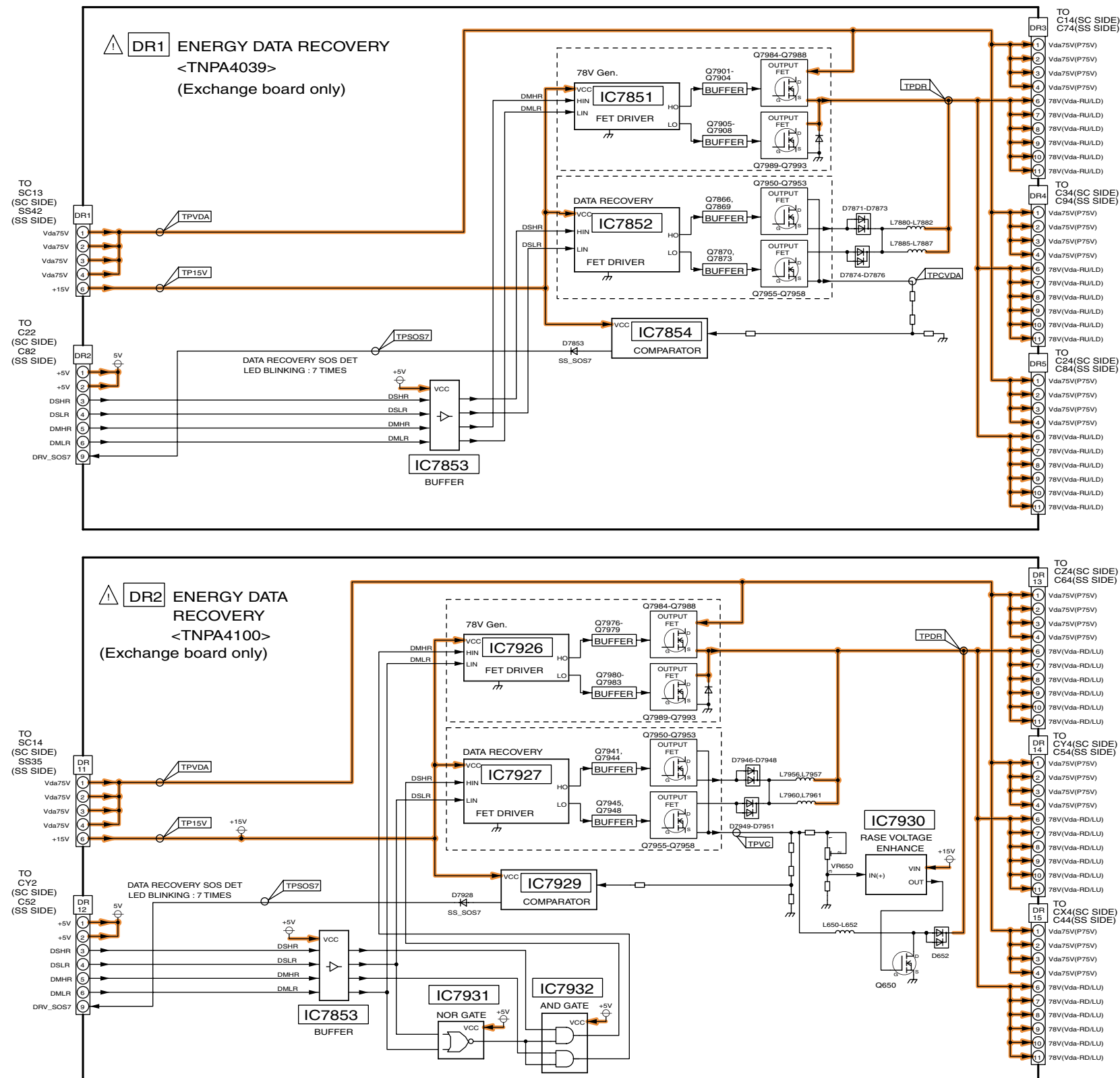
13.30. SS, SS2 and SS3-Board Block Diagram



TH-103PF9UK/EK
SS, SS2 and SS3-Board Block Diagram

TH-103PF9UK/EK
SS, SS2 and SS3-Board Block Diagram

13.31. DR1, DR2 and CD-Board Block Diagram



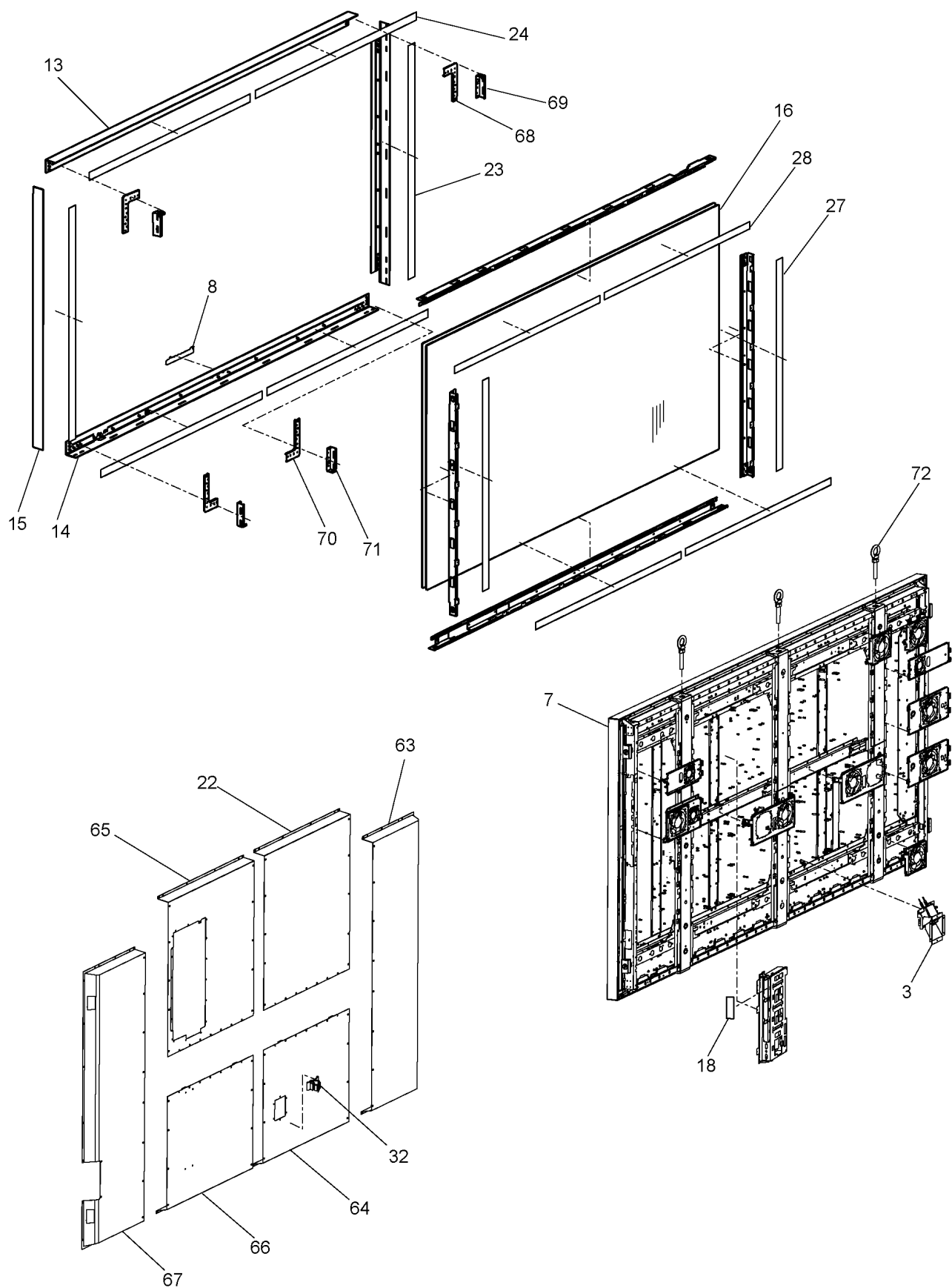
NOTE

[illegible]

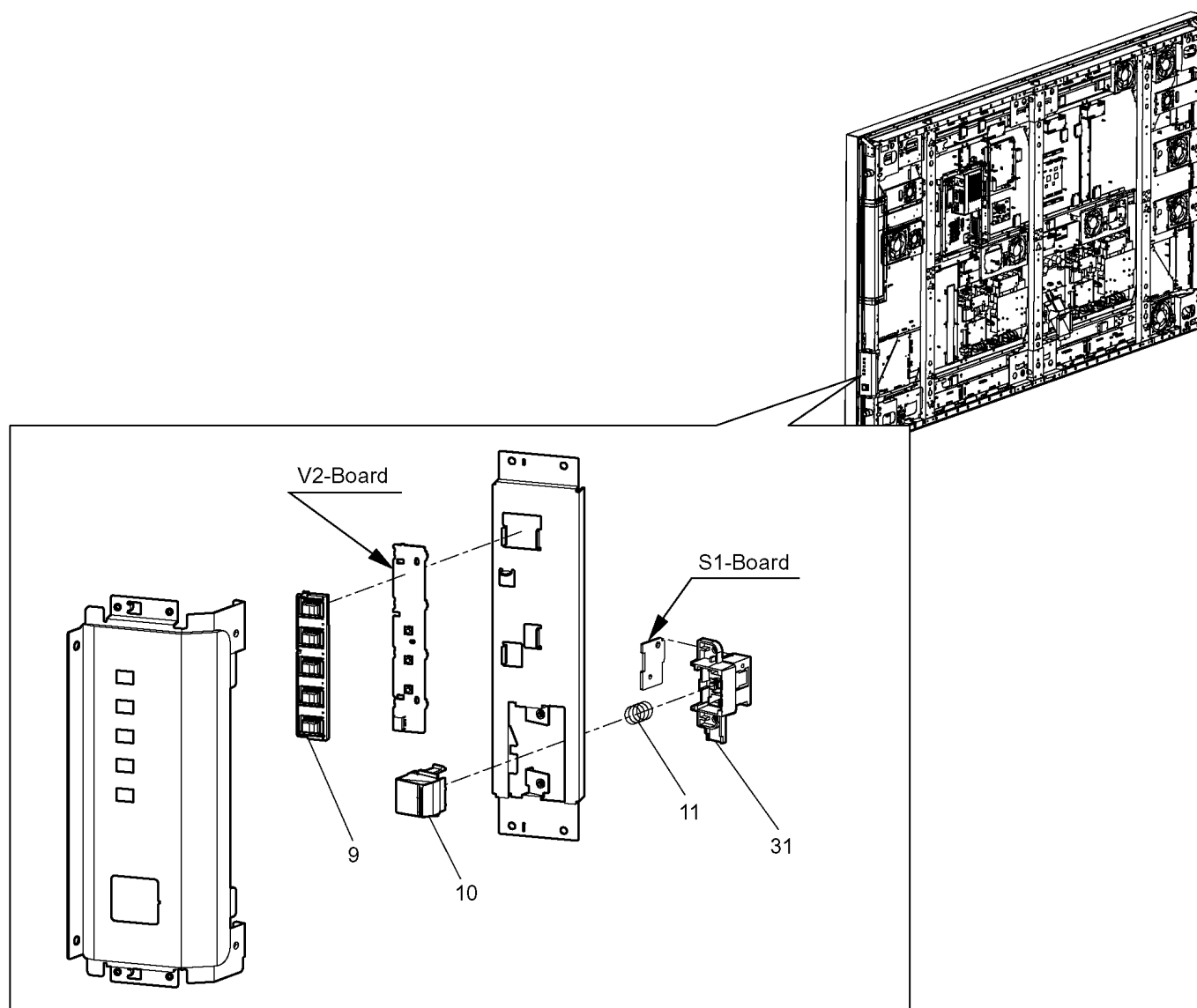
15 Parts Location

15.1. Exploded View

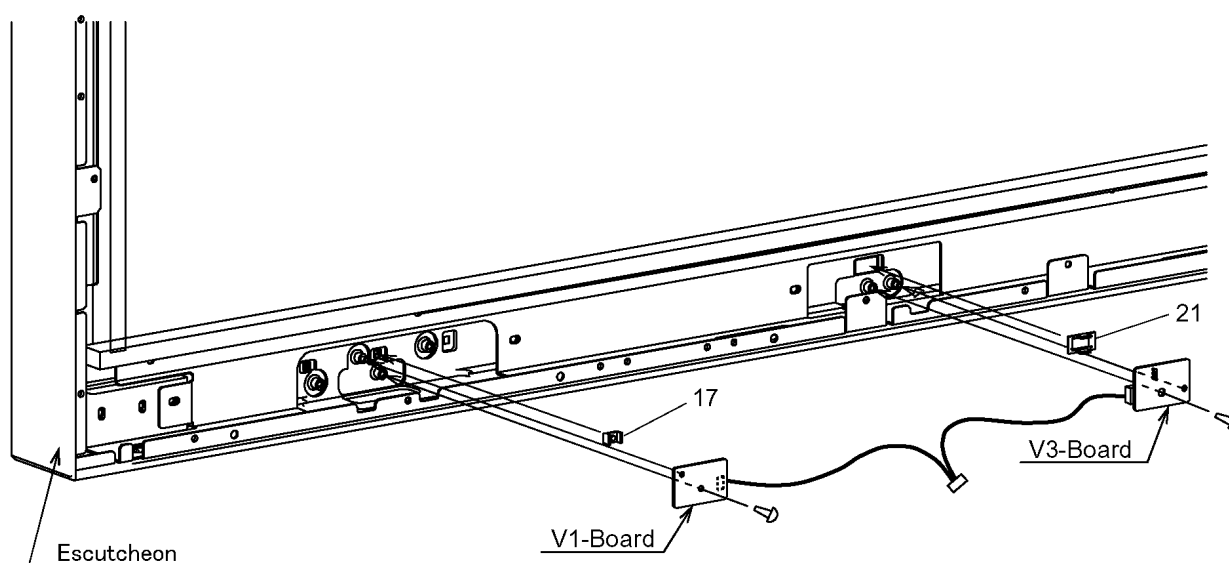
15.1.1. The main mechanical parts relation



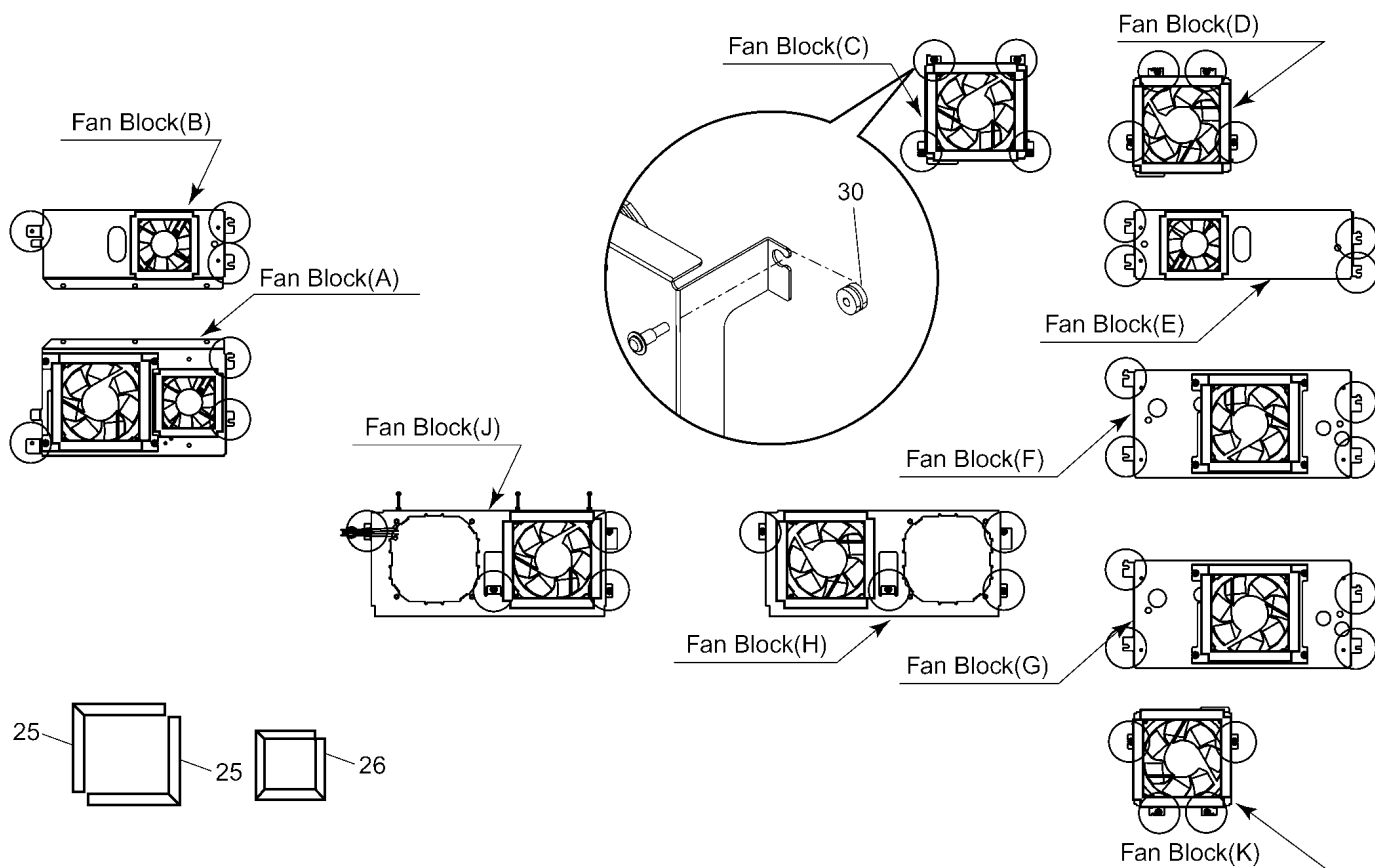
15.1.2. Customer Control part location enlarged view



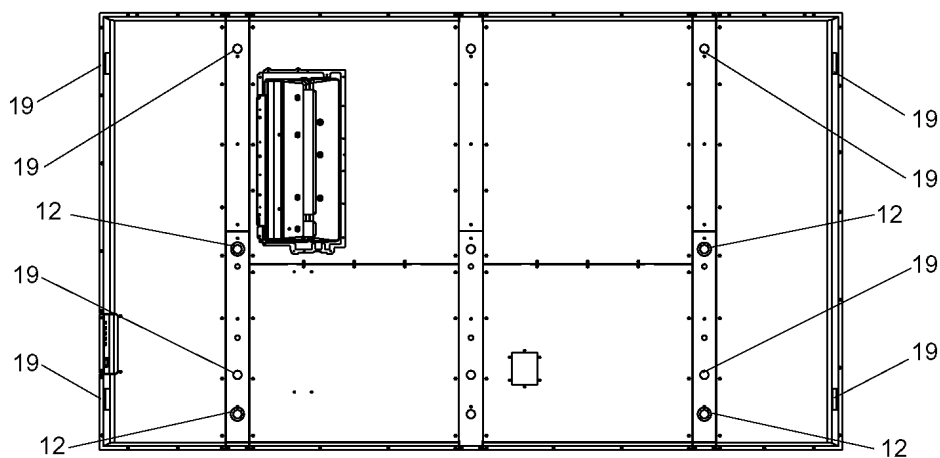
15.1.3. Escutcheon part location enlarged view



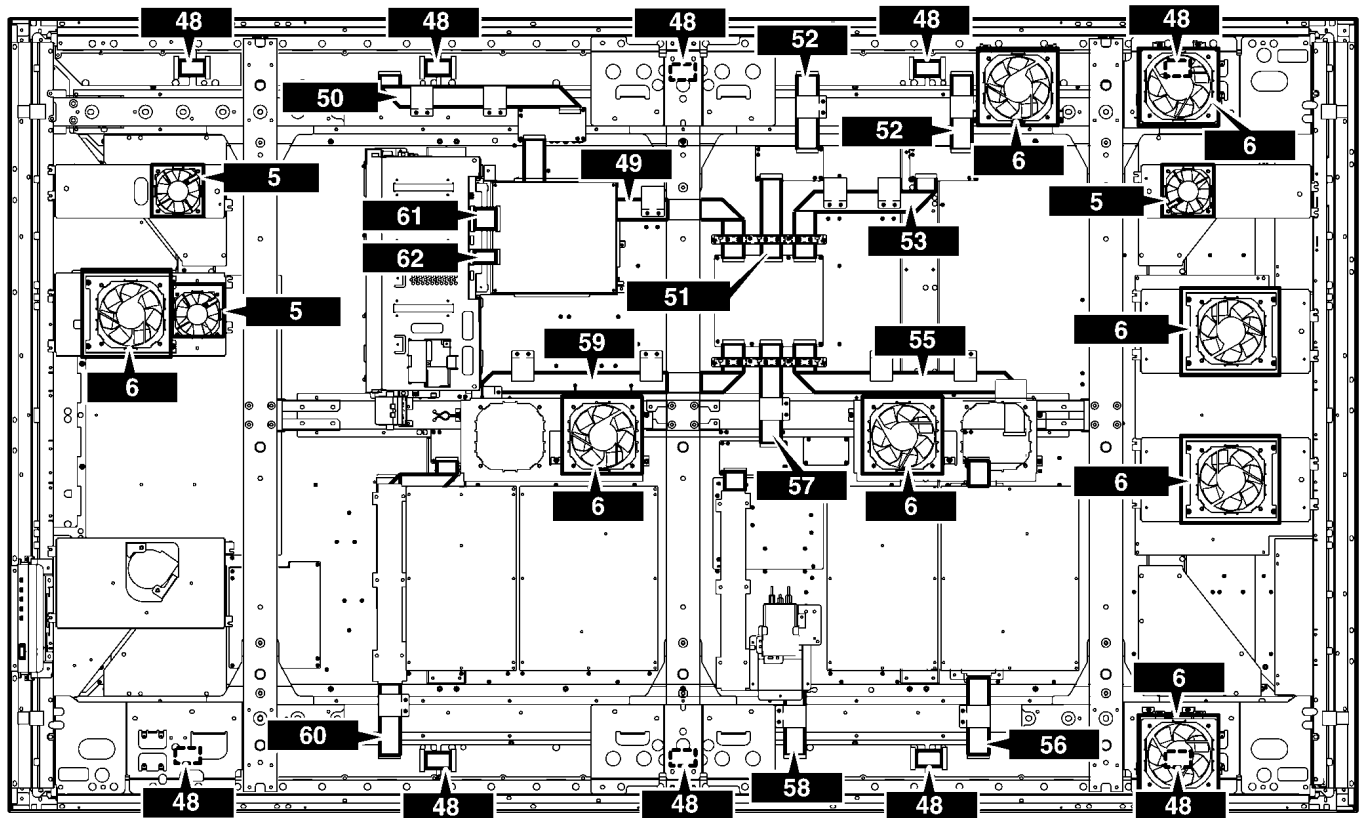
15.1.4. Fan part location enlarged view



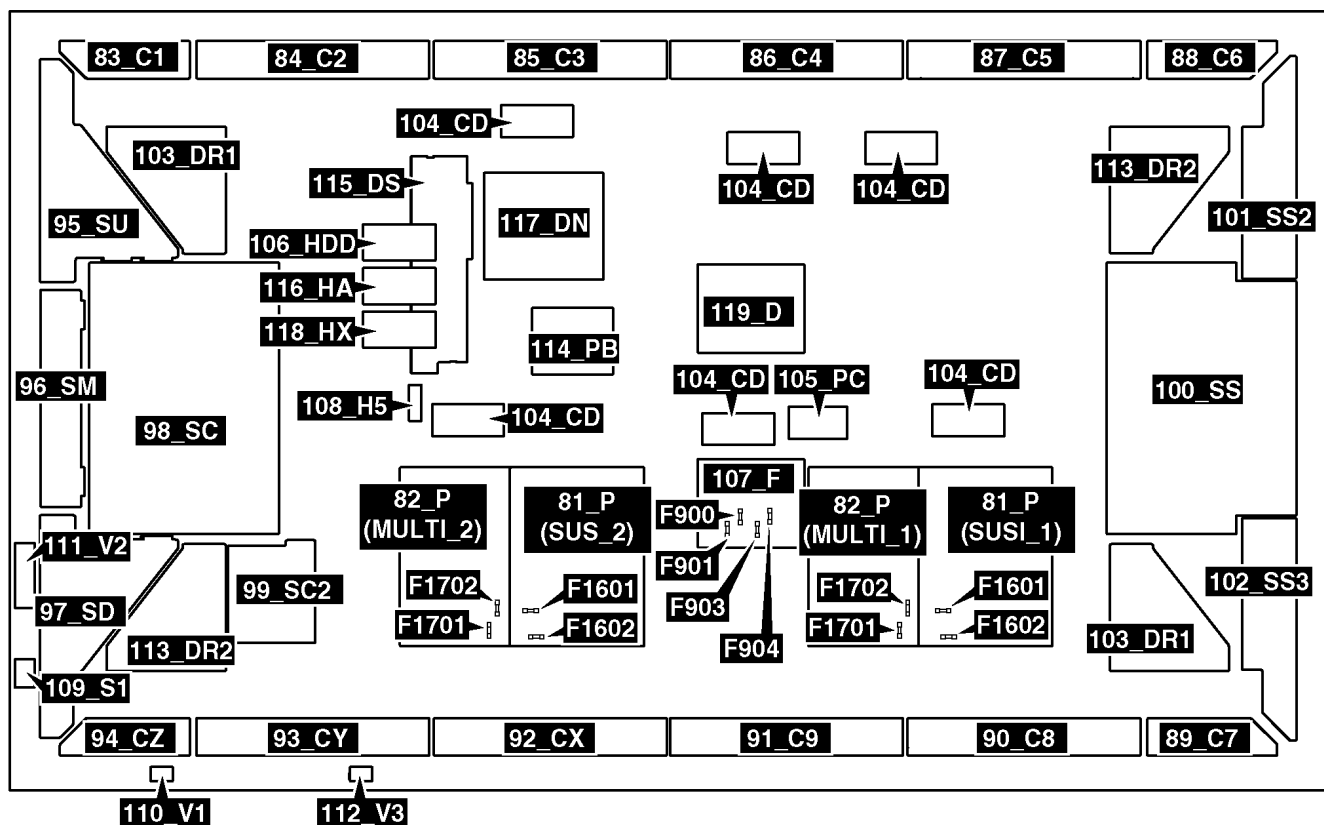
15.1.5. Rear cover location enlarged view



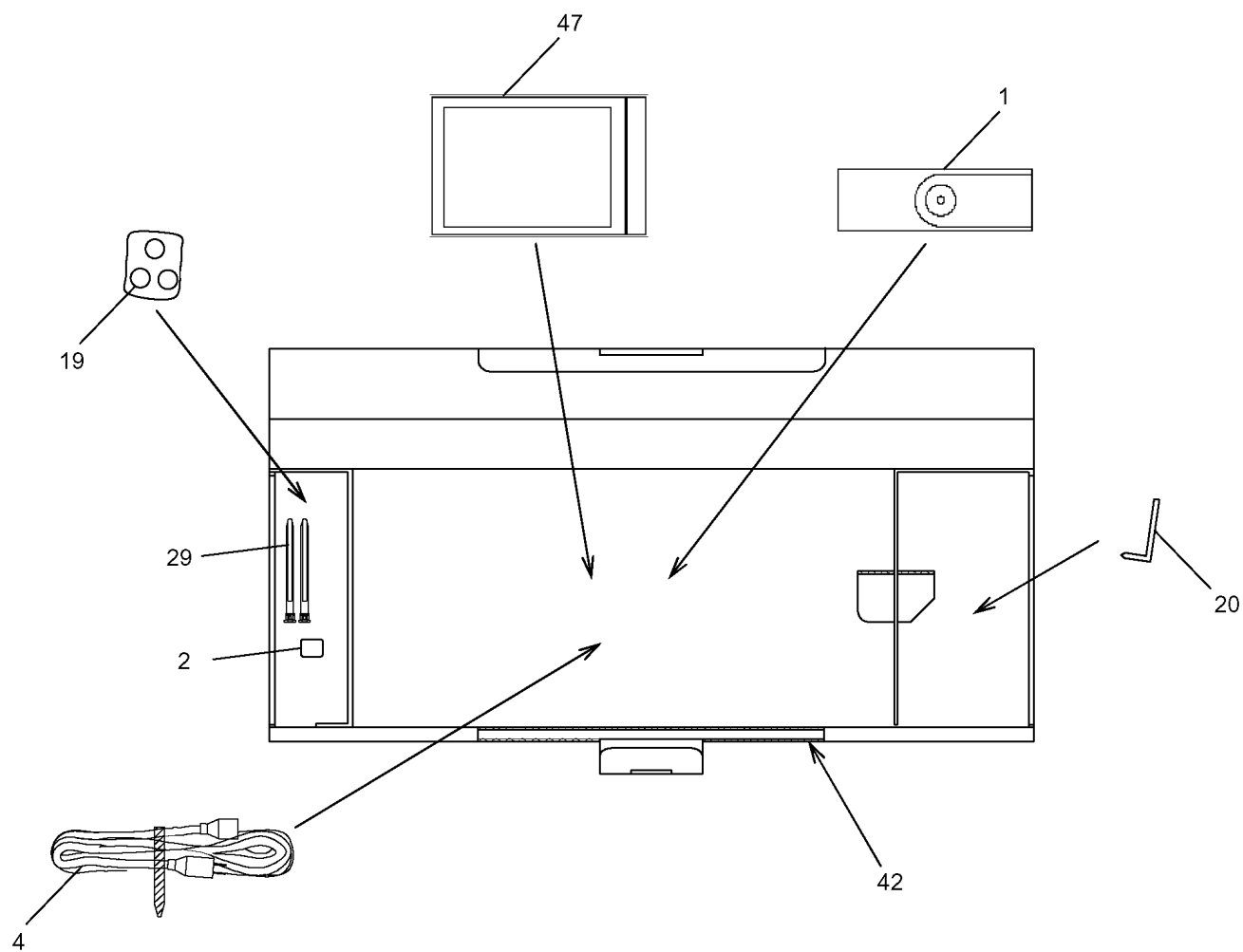
15.2. Cable and Fan

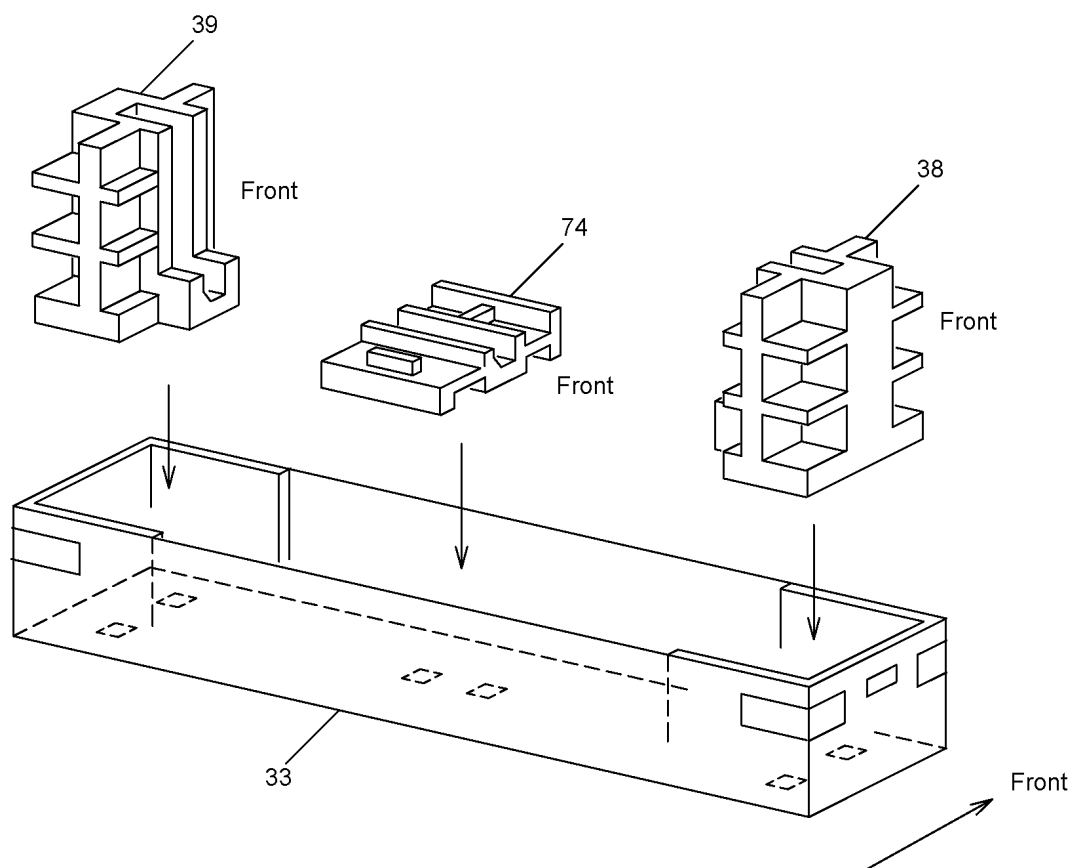


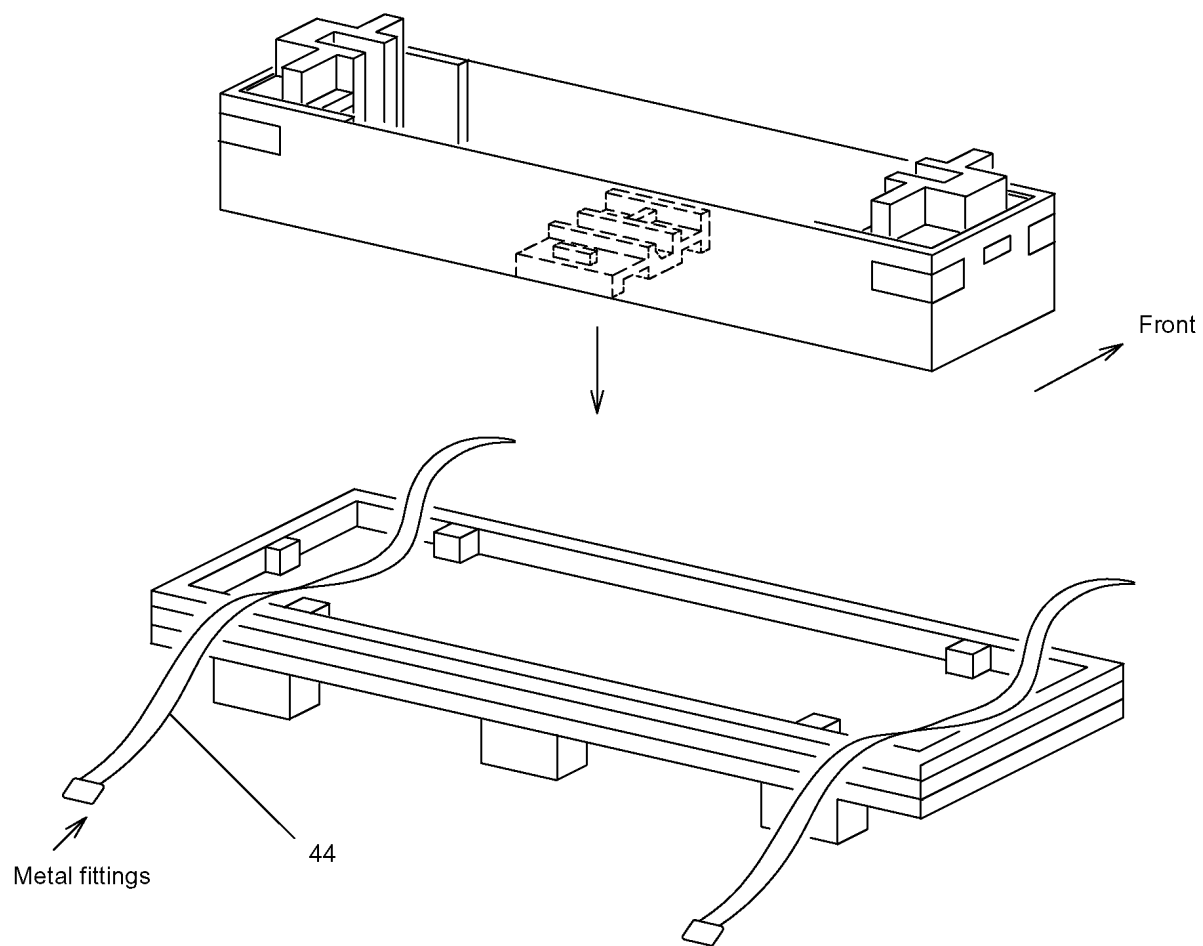
15.3. Board and Fuse

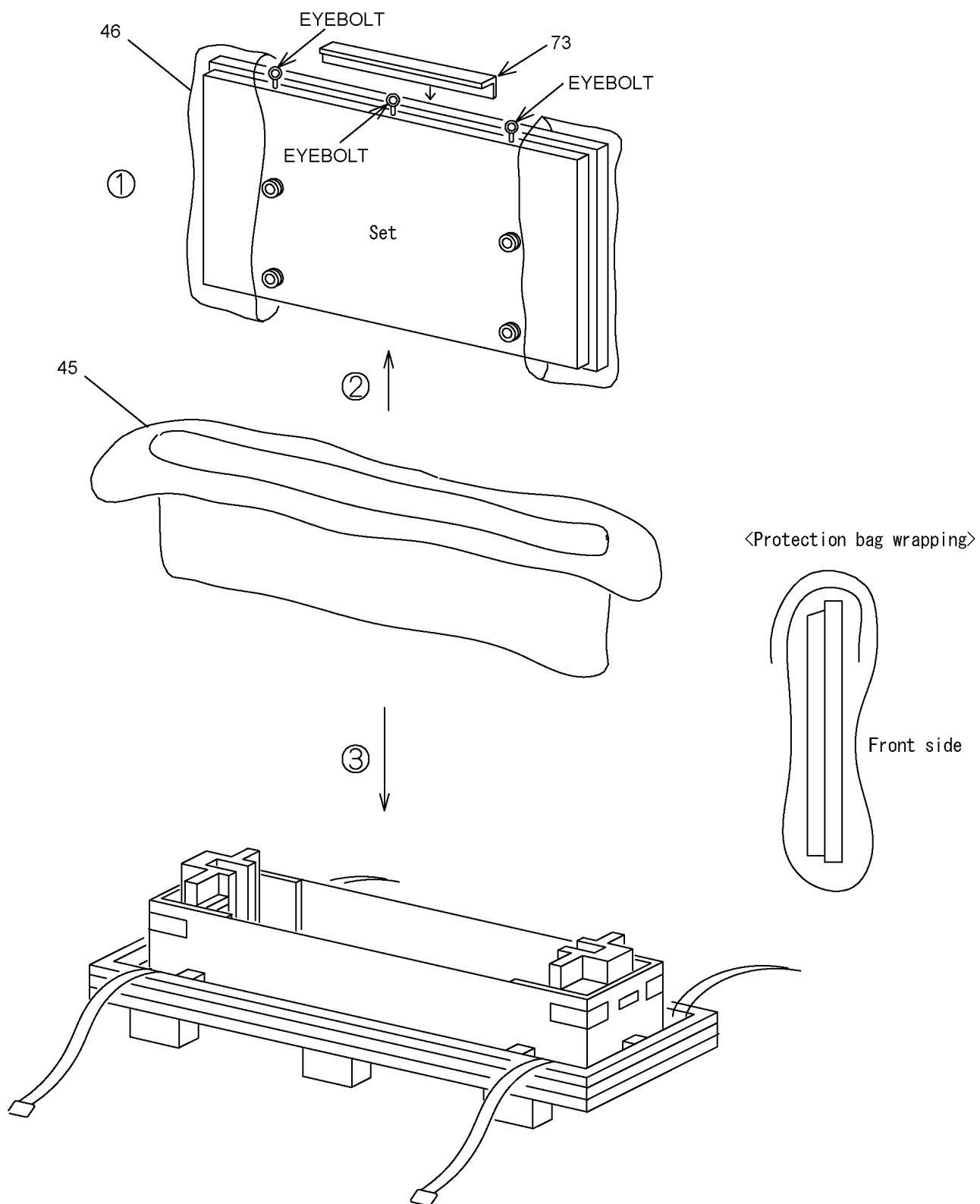


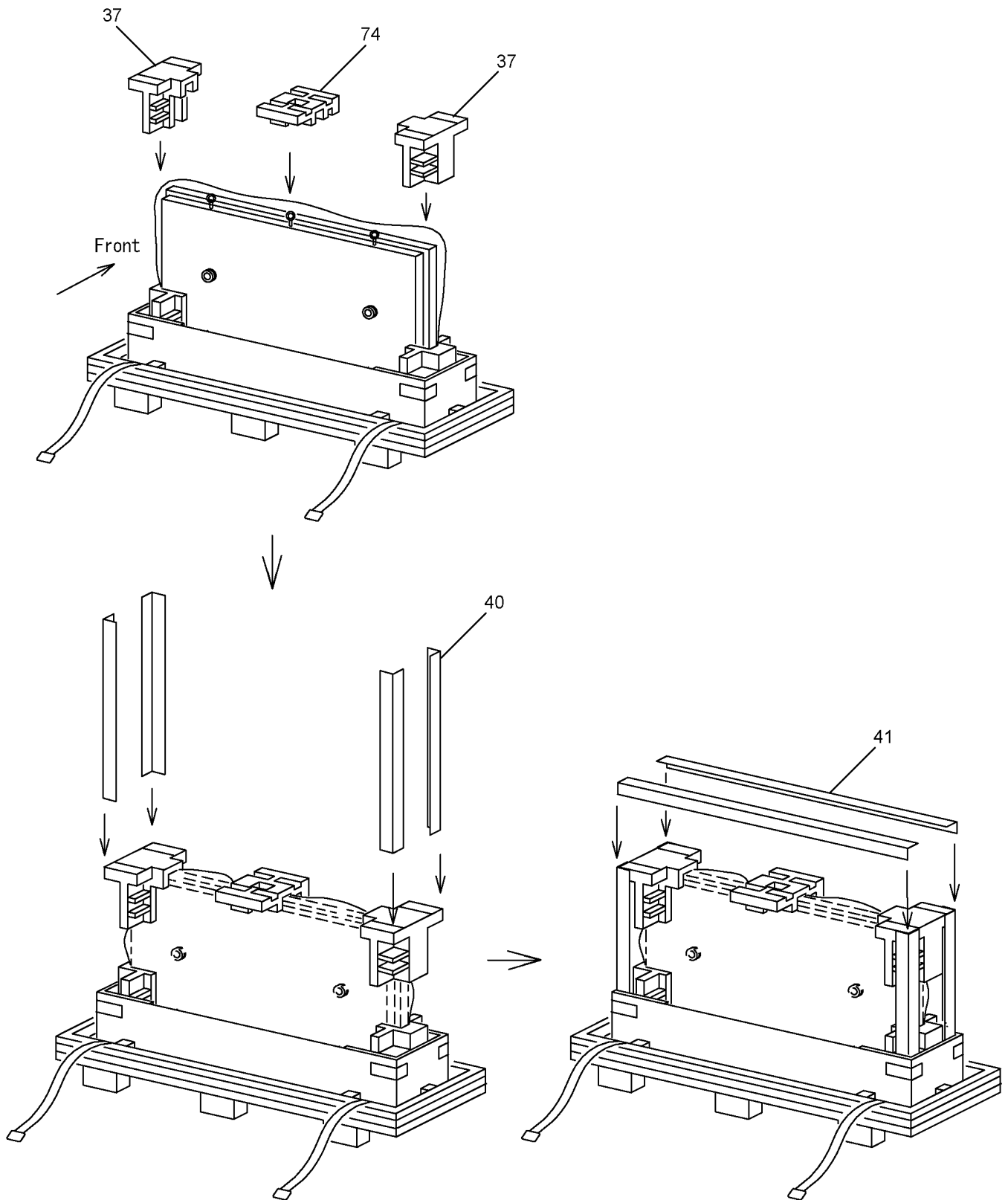
15.4. Packing summary

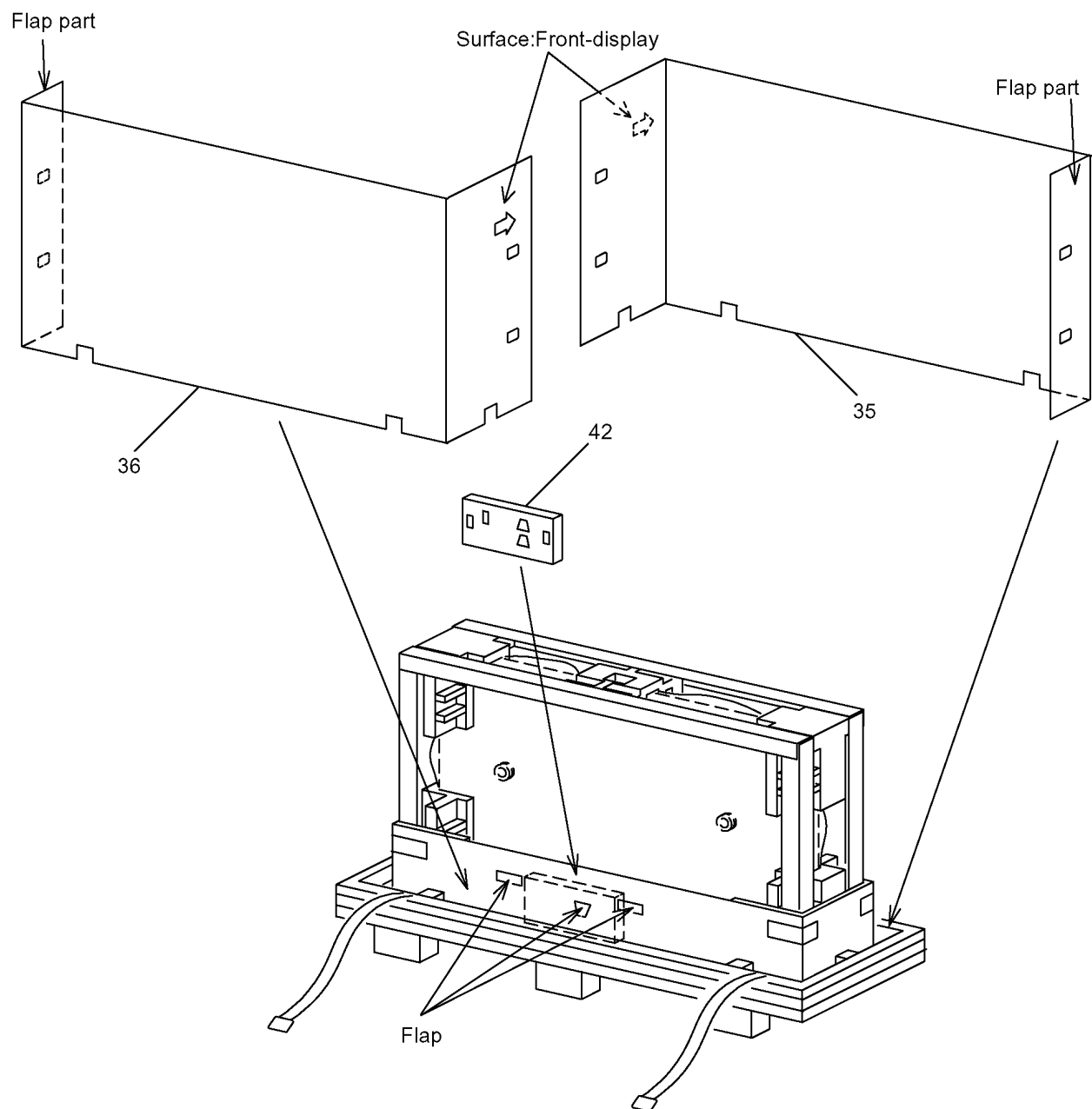


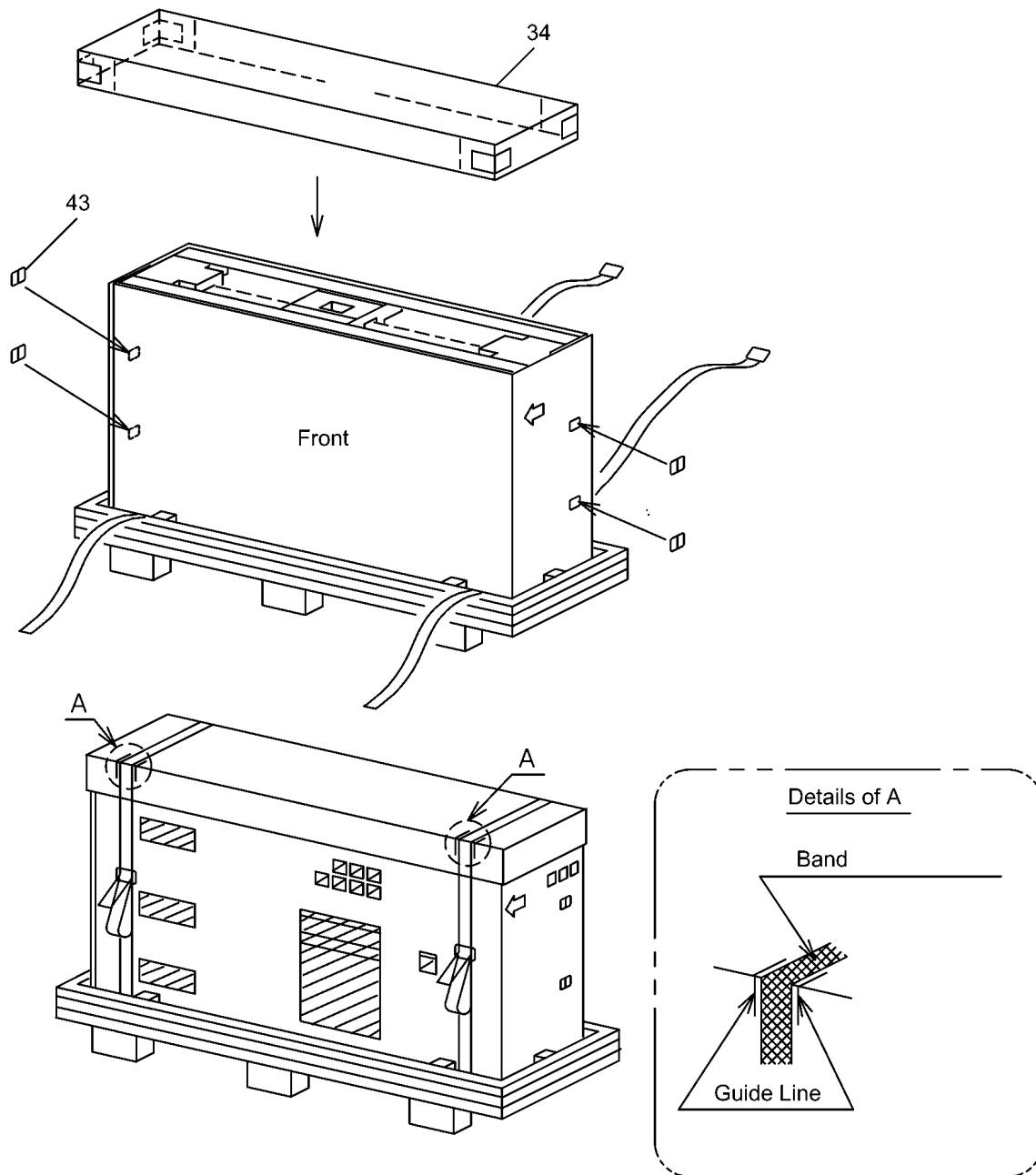




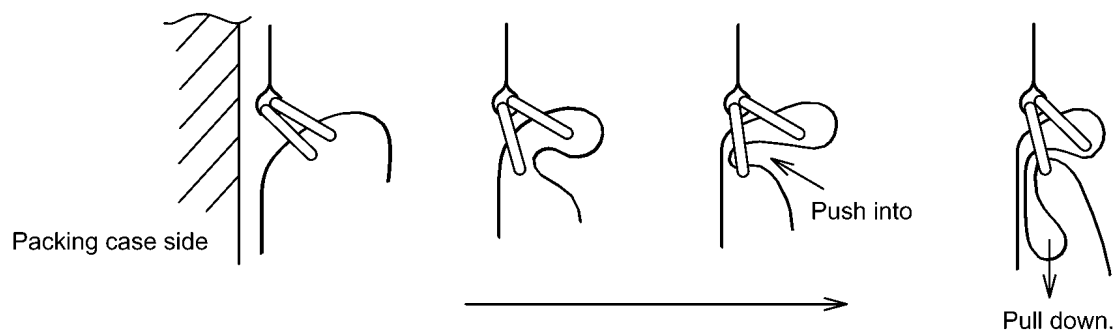








<Band tightening procedure>



16 Replacement Parts List

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	EUR7636070R	REMOTE CONTROLLER	1	UK
1	EUR7636090R	REMOTE CONTROLLER	1	EK
	JOKD00000096	FERRITE CORE	3	
2	JOKF00000021	NOISE FILTER	1	
	K1LA23BA0003	BRIDGE CONNECTOR (SU-SM/SM-SD)	2	
3	K2AHYH000009	AC INLET	1	△
4	K2CG3YY00011	AC CORD	1	UK △
4	K2CN3YY00003	AC CORD (ROUND PIN)	1	EK △
4	K2CT3YY00002	AC CORD (RECTANGULAR BLAD)	1	EK △
5	L6FAYYYH0030	FAN UNIT (80mm)	3	
6	L6FAYYYH0031	FAN UNIT (120mm)	8	
7	MD103F09A1J	PLASMA DISPLAY PANEL	1	△
8	TBMA209	PANASONIC BADGE	1	
9	TBXA46703A	5 RANGE BUTTON	1	
10	TBXA50001	POWER BUTTON	1	
	TESA031	SPRING	1	
11	TESD031	SPRING	1	
	THEA068N	SCREW	6	
12	THEA154J	M16 BOLT	4	
	THEL0239	SCREW	12	
	THEL027N	SCREW	29	
	THEL0429	SCREW	7	
	THTA0419	HOOK SCREW	8	
	THTD011J	SCREW	4	
	THTD013N	SCREW	28	
	THTF011N	SCREW	704	
13	TKEA16401	ESCUTCHEON TOP	1	
14	TKEA16501T	ESCUTCHEON BOTTOM	1	
15	TKEA16601	ESCUTCHEON LEFT/RIGHT	2	
16	TKGA5314	FRONT GLASS	1	
17	TKKC5213	LED PANEL	1	
18	TKKL5266	COVER	1	
19	TKKL5370	EYEBOLT COVER	11	
20	TKKX0015	HEXAGONAL WRENCH	1	
21	TKPA60301	REMOCON RECEIVE PANEL	1	
22	TKUX11501	REAR COVER (CENTER/LEFT/U)	1	
23	TMKA580	ESCUTCHEON FELT LEFT/RIGHT	2	
24	TMKA581	ESCUTCHEON FELT TOP/BOTTOM	4	
25	TMKG405	SPONGE (FAN)	18	
26	TMKG469-1	SPONGE (FAN)	3	
27	TMKG732	SPONGE (LEFT/RIGHT)	2	
28	TMKG733	SPONGE (UPPER/LOWER)	4	
	TMM16473-1	CLAMPER	5	
	TMM17499	CLAMPER	1	
	TMM25401	CLAMPER	10	
	TMM6463-1	CLAMPER	10	
	TMM6496-1	CLAMPER	1	
	TMM7464-2	CLAMPER	5	
	TMM7468-1	CLAMPER	10	
	TMME047	CLAMPER	14	
	TMME061	CLAMPER	14	
	TMME088	CLAMPER	6	
	TMME152	CLAMPER	6	
	TMME152	CLAMPER	1	
	TMME185	CLAMPER	6	
29	TMME187	CLAMPER	4	
	TMME199	CLAMPER	4	
32	TMME226	AC CORD CLAMPER	1	
	TMME228	CLAMPER	6	
30	TMMJ068	RUBBER (FAN)	32	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
31	TMWC016	P BUTTON BRACKET	1	
	TMXX036	AC CORD CLAMPER B	1	UK
33	TPCC04501	CARTON BOTTOM	1	
34	TPCC04601	CARTON TOP	1	
35	TPCC04702	CARTON SIDE A	1	UK △
	TPCC04703	CARTON SIDE A	1	EK △
36	TPCC04802	CARTON SIDE B	1	UK △
	TPCC04803	CARTON SIDE B	1	EK △
73	TPDA1038	PROTECTION PAD	4	
37	TPDA1416	TOP CUSHION	2	
38	TPDA1417-1	BOTTOM CUSHION LEFT	1	
39	TPDA1418-1	BOTTOM CUSHION RIGHT	1	
74	TPDA1419	CUSHION CENTER	2	
40	TPDF1744	L PAPER TUBE V	4	
41	TPDF1745	L PAPER TUBE H	2	
42	TPDF1746	PARTS BOX	1	
43	TPDX0007	JOINT	4	
	TPDX0027	BOTTOM SKID	1	
44	TPDX0028	BAND	5	
45	TPEH323	PROTECTION BAG	1	
46	TPEH324	FRONT PROTECTION COVER	2	
47	TQBC2122	INSTRUCTION BOOK (ENGLISH)	1	UK △
47	TQBC2123	INSTRUCTION BOOK (SPANISH)	1	UK △
47	TQBC2124	INSTRUCTION BOOK (FRENCH)	1	UK △
47	TQBC2125	INSTRUCTION BOOK (ENGLISH)	1	EK △
47	TQBC2126	INSTRUCTION BOOK (GERMAN)	1	EK △
47	TQBC2127	INSTRUCTION BOOK (FRENCH)	1	EK △
47	TQBC2128	INSTRUCTION BOOK (ITALIAN)	1	EK △
47	TQBC2129	INSTRUCTION BOOK (SPANISH)	1	EK △
47	TQBC2130	INSTRUCTION BOOK (DUTCH)	1	EK △
47	TQBC2131	INSTRUCTION BOOK (DANISH)	1	EK △
47	TQBC2132	INSTRUCTION BOOK (SWEDISH)	1	EK △
48	TSXL518	CABLE (C11-C21/C23-C32/C31-C41/C42-C53/C51-C61/C71-C81/C83-C93/C91-CX1/CX2-CY3/CY1-CZ1)	10	
49	TSXL568	CABLE (D31-CD1)	1	
50	TSXL569	CABLE (C20-CD2)	1	
51	TSXL570	CABLE (D32-CD1)	1	
52	TSXL571	CABLE (C40-CD2)	2	
53	TSXL572	CABLE (D33-CD1)	1	
55	TSXL574	CABLE (D34-CD1)	1	
56	TSXL575	CABLE (C80-CD2)	1	
57	TSXL576	CABLE (D35-CD1)	1	
58	TSXL577	CABLE (C90-CD2)	1	
59	TSXL578	CABLE (D36-CD1)	1	
60	TSXL579	CABLE (CY0-CD2)	1	
61	TSXL584	CABLE (DN6-DS5)	1	
62	TSXL585	CABLE (DN1-DS1)	1	
63	TTUA1515	REAR COVER (SIDE/LEFT)	1	△
64	TTUA1518	REAR COVER (CENTER/LEFT/B)	1	△
65	TTUA1519	REAR COVER (CENTER/RIGHT/U)	1	△

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
66	TTUA1520	REAR COVER (CENTER/RIGHT /B)	1	△
67	TTUA1526	REAR COVER (SIDE/RIGHT)	1	UK △
67	TTUA1527	REAR COVER (SIDE/RIGHT)	1	EK △
68	TUXJ350	ESC (LEFT/TOP RIGHT/BOTTOM)	2	△
69	TUXJ351	ESC (LEFT/TOP RIGHT/BOTTOM)	2	△
70	TUXJ370	ESC (RIGHT/TOP LEFT/BOTTOM)	2	△
71	TUXJ371	ESC (RIGHT/TOP LEFT/BOTTOM)	2	△
	XTV3+10JFJ	SCREW	2	
	XTV3+10JFJ	SCREW	1	
	XTV3+8JFJK	SCREW (TUNER COVER)	1	
	XTW3+8TFJ	SCREW	2	
72	XVN16FJ	EYEBOLT	3	
	XWB16BVJ	M16 SPRING WASHER	4	
	XYN3+F10FJ	SCREW	5	
	XYN3+F8FJ	SCREW	5	
	XYN3+J12FJ	SCREW	230	
	XYN3+J8FJ	SCREW ROHS	20	
	XYN4+E8FJ	SCREW	1	
	XYN4+F10FJK	SCREW	103	
	XYN4+F32FJ	SCREW	35	
	XYN4+J10FJ	SCREW	135	
	XYN5+F15FJ	SCREW	86	
	XYN5+F30FJK	BLACK SCREW	18	
	XYN8+F20FJK	SCREW	24	
	XZBT6506	POLY BAG	1	
F1601.F1602	K5D103BMA001	TIME LAG FUSE HIGH	4	△
F900.F901.F903.F904	K5D103BMA001	TIME LAG FUSE HIGH	4	△
F1701.F1702	K5D502BNA007	AC FUSE	4	△
81	ZTXMM641MG2	CIRCUIT BOARD P (SUS)	2	△
82	ZTXMM641MG1	CIRCUIT BOARD P (MULTI)	2	△
83	TNPA4018	CIRCUIT BOARD C1	1	△
84	TNPA4019	CIRCUIT BOARD C2	1	△
85	TNPA4020	CIRCUIT BOARD C3	1	△
86	TNPA4021	CIRCUIT BOARD C4	1	△
87	TNPA4022	CIRCUIT BOARD C5	1	△
88	TNPA4023	CIRCUIT BOARD C6	1	△
89	TNPA4024	CIRCUIT BOARD C7	1	△
90	TNPA4025	CIRCUIT BOARD C8	1	△
91	TNPA4026	CIRCUIT BOARD C9	1	△
92	TNPA4027	CIRCUIT BOARD CX	1	△
93	TNPA4028	CIRCUIT BOARD CY	1	△
94	TNPA4029	CIRCUIT BOARD CZ	1	△
95	TNPA4030	CIRCUIT BOARD SU	1	△
96	TNPA4031	CIRCUIT BOARD SM	1	△
97	TNPA4032	CIRCUIT BOARD SD	1	△
98	TNPA4033	CIRCUIT BOARD SC	1	△
99	TNPA4034	CIRCUIT BOARD SC2	1	△
100	TNPA4035	CIRCUIT BOARD SS	1	△
101	TNPA4036	CIRCUIT BOARD SS2	1	△
102	TNPA4037	CIRCUIT BOARD SS3	1	△
103	TNPA4039	CIRCUIT BOARD DR1	2	△
104	TNPA4040	CIRCUIT BOARD CD	6	△
105	TNPA4041	CIRCUIT BOARD PC	1	△
106	TNPA4052	CIRCUIT BOARD HDD	1	△
107	TNPA4055	CIRCUIT BOARD F	1	△
108	TNPA4058	CIRCUIT BOARD H5	1	△
109	TNPA4084	CIRCUIT BOARD S1	1	△
110	TNPA4085	CIRCUIT BOARD V1	1	△
111	TNPA4086	CIRCUIT BOARD V2	1	△
112	TNPA4087	CIRCUIT BOARD V3	1	△
113	TNPA4100	CIRCUIT BOARD DR2	2	△

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
114	TNPA4103	CIRCUIT BOARD PB	1	△
115	TNPA4217	CIRCUIT BOARD DS	1	△
116	TXNHA10RBS	CIRCUIT BOARD HA	1	△
117	TZTNP01YLTU	CIRCUIT BOARD DN	1	△
118	TZTNP01YLTW	CIRCUIT BOARD HX	1	△
119	TZTNP02YLTJ	CIRCUIT BOARD D	1	△